SEEING THE GOOD AND BAD IN CULTURE:

AN EXPLORATION OF THE CONSTRUCT OF CULTURAL COMPLEXITY

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Shu-Yi Wang

SEEING THE GOOD AND BAD IN CULTURE:

AN EXPLORATION OF THE CONSTRUCT OF CULTURAL COMPLEXITY

This research aimed to explore cultural complexity, a novel construct defined as variability in the level of agreement between one's personal beliefs and the perceived important norms in one's culture. Simply put, individuals who exhibit high levels of cultural complexity tend to notice both positive and negative aspects of their culture. Although previous research in the psychology of culture has examined the overall degree of fit between one's personal beliefs and perceived cultural norms, little is known about whether cultural complexity is a meaningful construct. In three studies, I demonstrated the relevance of cultural complexity by examining the role it plays in beliefs about culture (Study 1), attitudes towards a racial ingroup and outgroup (Study 2), and patterns of information processing (Study 3). Study 1 mapped the nomological network of cultural complexity: Mediation analyses were used to identify individual difference correlates of cultural complexity and demonstrate that cultural complexity was associated with variables conducive to positive intergroup contact (e.g., cultural humility). Study 2 was an experimental study that provided evidence suggesting that cultural complexity attenuated intergroup bias, especially outgroup derogation, when people's group identity was threatened. Study 3 further showed that cultural complexity facilitated a tendency to consider even-handed information when the interest of one's cultural in-group was at stake. Results from these three studies with different research designs lend support to the validity of cultural complexity and have important implications for the conceptualization of individuals' interactions with their culture.

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Chapter I: Introduction

Consider the following account of culture taken from a Taiwanese student: "Taiwanese culture to me is hard to describe. I think people in Taiwan are under undue pressure to live up to a strict set of societal expectations, such as getting married and buying a house by a certain age. There are other bad customs practiced in Taiwan, like the traditional funeral proceedings that are just noisy and formalism. However, showing respect to teachers and other Confucius ideas are something that I really appreciate." This excerpt contains both positive and negative evaluations of the perceived cultural norms in Taiwan. How would one describe this person's conceptualization of his or her culture? In addition, what are the roles that this inconsistent evaluative profile of understanding culture plays in people's culturally relevant psychological processes? To address these questions, I introduce in this dissertation a novel construct—cultural complexity, defined as a proclivity to think of one's culture as composed of both desirable and undesirable parts. An example will be a person who pays equal attention to both a cultural norm he or she thinks highly of and another cultural norm perceived as undesirable. I first review the main paradigms in the psychology of culture, focusing on how cultural is conceptualized and measured in each approach. The limited utility of these prior paradigms in providing an adequate account for cultural complexity will be delineated. I then define cultural complexity, relate it to other constructs in the literature, and review preliminary evidence for the central premise of cultural complexity, namely that individuals who are inclined to notice both positive and negative aspects of their culture have a unique (positive) way of relating to culture. I conclude with a discussion on methodology, arguing that the subjective norms approach serves as an appropriate basis from which a measure of cultural complexity can be developed. Finally, an overview of the three studies and predictions are provided.

Different Paradigms in the Cultural Psychological Study

As literature documenting national and ethnic group differences in human psychological functioning has burgeoned in the past three decades, researchers are increasingly interested in the underlying mechanisms that explain these differences. Various experimental manipulation techniques have been employed to directly test the effects of theorized active cultural ingredients (Hong, Morris, Chiu, & Benet-Martinez, 2000; Oyserman & Lee, 2008). Generally speaking, the paradigm in cultural research in psychology has shifted from a descriptive science of group differences to a science of cultural processes, with a focus on the malleable nature of culture (Leung, Chiu, & Hong, 2011; Matsumoto & Yoo, 2006; Y. J. Wong, Wang, & Maffini, 2014; Y. J. Wong, Wang, & Farmer, in press).

The Group Entity Paradigm

The first paradigm of research is rooted in an entity conception of culture (Adams & Markus, 2004). In other words, culture is seen as a stable system of lay theories, beliefs, and norms confined within the boundary of various types of readily identifiable groups (e.g., race, ethnicity, nation; Adams & Markus, 2004; Morris, Chiu, & Liu, 2015). This conceptualization implies a unidirectional channel of culture influences where people absorb cultural theories in a fax-like manner (Comaroff & Comaroff, 1993), so whatever elements are characteristic of a culture, their impacts on human behaviors are believed to be steady, constant, and general (DiMaggio, 1997; Morris et al., 2015). Following this culture-as-categories perspective, studies under this paradigm seek to contrast these demarcated human groups on cognitive, behavioral, or emotional variables of interest, and then attribute the differences to cultural influences (Y. J. Wong et al., 2014). In terms of methodology, culture is often not measured but assumed. For example, in a cross-cultural research comparing American and Chinese participants, culture will

be operationalized as being a member in either country, which is then treated as discrete categories in subsequent analyses (Hermans & Kempen, 1998). Although this paradigm is fruitful in critiquing the generality of psychological principles and delineating the boundaries of theories developed primarily in the US with monocultural samples, it has been challenged for equating (social, geographical, ethnic) groups with cultures and assuming the homogeneity of cultural groups (Matsumoto & Yoo, 2006; Y. J. Wong et al., 2014).

Redirecting our attention back to the description of culture given by the Taiwanese student, readers might have noticed at least two limitations in the explanatory utility of the entity paradigm. First, the questionable assumption of culture's sweeping influence on all people in a cultural group precludes the proposition that people can articulate the existence of certain cultural norms, yet hold personal judgments that may or may not align with these norms (Way et al., 2014; Y. J. Wong, Ho, Wang, & Fisher, 2016). Empirical studies have discovered an imperfect correlation between personal values and beliefs and those perceived to be widespread in one's culture (Wan, Chiu, Tam, et al., 2007). Additionally, negative correlations between personal beliefs and cultural practices have also been reported (Taras, Steel, & Kirkman, 2010). Second, the assumption of groups with rigid boundaries neglects the fact that culture is continuously evolving. Some independent, "American" cultural values could today be perceived as equally widespread in China and America (e.g., self-reliance), and vice versa for some collectivistic, "Chinese" values (e.g., majority rule; Wan, Chiu, Tam, et al., 2007). Therefore, it is conceivable that for some people, cultural complexity will only be observed when they are given the latitude to come up with whatever aspects of culture they consider important. I will elaborate on this issue in the latter section on measuring cultural complexity.

The Individual Differences Paradigm

Rather than using groups as proxies for culture, researchers in the individual differences paradigm have made an attempt to identify meaningful dimensions of culture against which countries and individuals can be mapped onto (Y. J. Wong et al., 2014). Such dimensions not only serve as a framework to explain the sources that lead to observed cultural variability in the similarities and differences in behavior, but also further facilitate the development of cultural theories that link cultural level phenomena to individual level psychological processes (Hofstede, 1980; Markus & Kitayama, 1991; Matsumoto & Yoo, 2006; Peng & Nisbett, 1999; Y. J. Wong et al., 2014). For example, a highly influential set of cultural dimensions is proposed by Hofstede (1980, 2001), where five dimensions are eventually identified as critical in explaining cultural variability; Markus and Kitayama (1991), on the other hand, stimulated the advance of this paradigm by linking the cultural level dimension of individualism-collectivism to the individual level of self (i.e., independent and interdependent self-construal).

Research within this paradigm typically involves measuring these identified dimensions through self-report Likert-type scales, so it provides a direct assessment on the cultural cause. Moreover, the homogeneous group assumption is also rejected as within-group variability inevitably emerges (Matsumoto & Yoo, 2006; Y. J. Wong et al., 2014). This methodology has spurred a rapid growth in literature across different disciplines. In counseling psychology, for instance, the advent of studies on adherence to cultural values (Kim, Atkinson, & Yang, 1999; Kim, Soliz, Orellana, & Alamilla, 2009) advances our understanding of the interplay between culture and mental health outcomes.

Despite the immense contributions from the individual differences paradigm, culture is still conceptualized as mental lenses through which its members interpret the world. These "lenses" are believed to be something that people cannot put aside. In other words, cultural

values are like personality traits, exerting static influence across domains of people's lives (Morris et al., 2015; Y. J. Wong et al., 2014). This premise is problematic because people are not only capable of acquiring expertise in more than one culture, but also able to adjust their thoughts and behaviors according to the contexts (Hong & Chiu, 2001).

Turn the focus back to the free description of Taiwanese culture again. First, the most apparent challenge in trying to explain cultural complexity is the fact that this paradigm is concerned with the overall degree to which a person internalized cultural theories, not the variability of these beliefs. For instance, researchers can assess individualism-collectivism using a Likert-type scale and correlate its mean scores with individual outcomes, behaviors, and attitudes (Oyserman, Coon, & Kemmelmeier, 2002). Variation (as exemplified by the standard deviation of such scores) is simply not a part of the picture. Cultural complexity, in essence, involves variability in one's views of culture. The second challenge pertains to the degree of fit between the meaningful dimensions put forth by researchers and the dimensions personally relevant to the participants. Matsumoto and Yoo (2006) have made similar comment when reviewing existing theoretical models for explaining cultural differences. Specifically, they advocate for the inclusion of multiple cultural dimensions to afford a nuanced account for ways in which subjective culture shapes behavior. But the question remains—how many is enough and what should be included.

The Polyculturalist Paradigm

The third paradigm distinguishes itself from the previous two in its fundamentally different view on culture, namely, culture as partial and plural as opposed to categorical (Morris et al., 2015). In particular, culture is conceptualized as an open, evolving system consisting of a set of loosely connected beliefs and practices that are shared imperfectly among a group of

people across generations (Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010). The words *open and evolving* denote the first feature of culture that emphasizes the dynamic nature of culture. Culture can change as a result of intercultural contact. The second feature pertains to the heterogeneity within a culture group, which invites partiality and plurality. This perspective acknowledges individuals' agency in their interaction with cultures—from the collective-level system of cultural tools, members select a small subset according to needs and experiences (Morris et al., 2015). That is, not every member of a cultural group shares the same understanding of culture, and behavioral influence of culture is intermittent and conditional on various contexts (Hong & Mallorie, 2004). Last, this conception explicitly rejects the reified notion of culture, highlighting the fact that people can engage with some characteristics of their primary culture as well as some of another culture.

Two notable threads of contemporary cultural psychological research fit this paradigm. Research informed by the dynamic constructivist approach involves the experimental manipulation of the saliency of cultural knowledge, usually through exposing people to cultural icons. In such research, people from the same cultural group have been shown to display different cognitive and behavioral patterns depending on the cultural primes they received (Hong et al., 2000; R. Y. M. Wong & Hong, 2005). Studies that foreground the power of individuals' assumptions of values, beliefs, and behaviors widely endorsed in their cultures in explaining cross cultural differences is another example. This line of inquiry typically includes assessments (in most cases, self-report Likert-type measures) of people's knowledge of the norms of one or more cultures as well as their own personal norms and values. Researchers then examine how perceived cultural norms, personal norms, and the degree of fit between the two contribute to behavioral, cognitive, attitudinal, and mental health outcomes (Shteynberg, Gelfand, & Kim,

2009; Wan, Chiu, Peng, & Tam, 2007; Wan, Torelli, & Chiu, 2010; Y. J. Wong et al., 2016; Zou et al., 2009).

Applying this paradigm to cultural complexity, some strengths could be noted. First, cultural complexity emphasizes a person's subjective reflections on culture. Therefore, if we ask two Taiwanese individuals to provide open-ended descriptions of Taiwanese culture, the content of both responses is likely to be different. The explicit emphasis on cultural influences as partial and plural is critical in the polyculturalist paradigm because it not only acknowledges within group differences, but also allows a place for subjectivity. Second, the metaphor of cultural elements as a collection of "apps" that people can select and download (Morris et al., 2015) implies that people can also write reviews for the "apps." Again, this is consistent with what cultural complexity requires—the ability to evaluate important elements of one's culture. However, research in this paradigm has a lopsided focus on the degree to which one's personal values align with one's perceptions of the most important cultural norms in one's culture (e.g., Wan, Chiu, Peng, et al., 2007). In contrast, the literature is silent on the variability of this alignment—the defining feature of cultural complexity.

Conceptualization of Cultural Complexity

To address limitations in existing paradigms of culture, I introduce the concept of cultural complexity. Cultural complexity is defined as the tendency to hold both positive and negative evaluations of the social norms perceived to be important in one's culture. Culture contains myriad tangible and symbolic aspects, including practices, ideas, values, constitutive rules, artifacts and so on (Fiske, 2002). However, I focus only on cultural norms because they illuminate culturally relevant psychological processes above and beyond the contribution of individual values and beliefs (Morris, Hong, Chiu, & Liu, 2015; Zou & Leung, 2015). In the

counseling psychology literature, norms (in their broad sense) have also been shown to be related to relevant health outcomes, such as intention to seek professional help (Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011), engagement in health risk behavior (Hamilton & Mahalik, 2009), and life satisfaction (Y. J. Wong et al., 2016). In the following sections, I first elaborate on two characteristics of cultural complexity (i.e., variability and subjectivity), followed by a discussion aiming at disentangling cultural complexity from other similar constructs, including attitudinal ambivalence, integrative complexity, and intersubjective cultural representation.

Characteristics of Cultural Complexity

Variability. Variation in one's response pattern is an essential feature of cultural complexity. Psychological studies of culture, regardless of paradigms, have an exclusive focus on mean score, whether they be group mean scores (e.g., comparing nation mean score differences on Hofstede's cultural dimensions; Hofstede, 1983), individual mean scores (e.g., averaging individuals' scores on measures of self-construal; Cross, Bacon, & Morris, 2000), or mean scores of people's perception of cultural members' cultural orientation (Zou et al., 2009). The neglect of variation in cultural variables is surprising as there is empirical evidence as well as theoretical models postulating that individuals vary in their understanding of and levels of agreement with cultural norms (Fischer et al., 2009; Leung & Cohen, 2011; Y. J. Wong et al., 2016). A narrow focus on mean scores treats variability as statistical noise rather than as a meaningful cultural construct.

Capitalizing on variation is not a novel practice in psychology. Fischer et al. (2009) found that cultural members did not highly agree with one another in their perception of the sharedness of individualism and collectivism. They suggested that the variance itself may be a

useful index of cultural differences on the dimension of tightness-looseness. Another intellectual precursor of cultural complexity comes from personality psychology research that examines two forms of intraindivdual variance—variability in item scores of a questionnaire or fluctuations across time and situations (Eid & Diener, 1999; Timmermans, Van Mechelen, & Kuppens, 2010). Lastly, some scholars utilize variability to operationalize constructs pertaining to flexibility. For instance, Wiggins and Holzmuller (1981) conceptualized interpersonal flexibility as variability across one's profile of 16 interpersonal traits (e.g., dominance, introversion). Cheng (2001) defined cognitive flexibility, a process in coping flexibility, as the variability in one's perception concerning the extent to which one has control over stressful situations.

In sum, cultural complexity reflects intraindividual variation in people's level of endorsement of cultural norms. A profile containing strong agreement with some norms and disagreement with other norms indicates high cultural complexity. I surmise that cultural complexity would provide unique information beyond mean level of agreement with cultural norms.

Subjectivity. The second feature of cultural complexity is its explicit emphasis on subjectivity, which is influenced by social constructivist viewpoints on culture (Morris & Liu, 2015; Weber & Morris, 2010; Y. J. Wong et al., 2016; Y. J. Wong et al., 2013). Specifically, individuals do not passively absorb dominant cultural discourses and act mindlessly according to these internalized cultural scripts. Instead, people are active agents interacting with the widespread cultural theories (recall the "app" metaphor), a meaning making process from which they construct idiosyncratic understanding of their culture (Chiu et al., 2010; Y. J. Wong et al., 2016). To illustrate, two Americans can come up with very different answers when asked about the most important cultural norms concerning Americans. One person could report "getting

married and having children," whereas the other may say "voting and going to church."

Because of the heterogeneity in individuals' cultural representation, I argue that cultural complexity is best measured by a methodology that allows research participants the latitude to provide open-ended responses instead of responding to a predetermined set of norms provided by researchers (Y. J. Wong et al., 2016), a point I will elaborate on in the next section.

Contrast with Related Constructs

Attitudinal ambivalence and cultural complexity. At first glance, cultural complexity may be similar to attitudinal ambivalence, which refers to "the extent to which one's reactions to an attitude object are evaluatively mixed in that both positive (favorable) and negative (unfavorable) elements are included" (Wegener, Downing, Krosnick, & Petty, 1995, p. 460). Indeed, both constructs involve discrepant evaluations associated with the very same object, although cultural complexity applies the notion of discrepant evaluations specifically to culture. However, a close examination of these two constructs reveals that there are at least two important differences. First, research in attitudinal ambivalence almost unanimously links conflicting evaluations to unpleasant feelings when both conflicting cognitions are made accessible (Newby-Clark, McGregor, & Zanna, 2002). The relationship is also found for implicit ambivalence where people hold value-inconsistent implicit and explicit attitudes toward the same object (Rydell & Durso, 2012). However, unlike attitudinal ambivalence, cultural complexity is presumed to be a manifestation of critical reflections on cultural beliefs, values, and norms with a balanced perspective, which is not likely to beget negative psychological states. Indirect evidence can be gleaned from literature on integrative complexity, the concept used to describe people's cognitive representation about certain issues that encompasses multiple competing perspectives (differentiation) and conceptual connections among these elements

(integration; Suedfeld & Tetlock, 1977; Tetlock, 1986). Evidence shows that people were motivated to engage in this effortful way of information processing when they interpret an issue involving a tradeoff between values of high personal importance (Tetlock, 1986). Conflicting evaluations on important norms in one's cultural group could mirror such a state, motivating an individual to form a complex structure without aversive feelings.

The second major distinction pertains to a potential antecedent of the two constructs, need for cognition, referring to a propensity to gain satisfaction from cognitive tasks. For attitudinal ambivalence, Thompson and Zanna (1995) discovered that people high in need for cognition were less likely to be ambivalent than people low in need for cognition. On the other hand, although no empirical support is available, it makes conceptual sense that need for cognition will be positively associated with cultural complexity. In particular, because cultural complexity is characterized by variability in appraisals, it could be cognitively taxing. A person who gains pleasure by thinking (high need for cognition) is therefore presumed to have higher levels of cultural complexity. Taken together, cultural complexity is unlikely to induce unpleasant feelings and is hypothetically correlated positively with need for cognition, thus distinguishing itself from attitudinal ambivalence.

Integrative complexity and cultural complexity. Besides attitudinal ambivalence, it is also worthy of drawing a distinction between cultural complexity and the aforementioned integrative complexity, a construct that was first introduced to describe a cognitive style that has been recently applied to research on biculturalism (Tadmor, Galinsky, & Maddux, 2012; Tadmor & Tetlock, 2006; Tadmor, Tetlock, & Peng, 2009).

To reiterate, integrative complexity consists of two cognitive structural features: differentiation and integration. When used in a cross-cultural context, it refers to "the degree to

which people accept the reasonableness of clashing cultural perspectives on how to live and, consequently, the degree to which they are motivated to develop cognitive schemas that integrate these competing worldviews by explaining how different people can come to such divergent conclusions or by specifying ways of blending potentially discordant norms and values" (Tadmor et al., 2009, p. 106). Given this definition, cultural complexity shares with integrative complexity the element of acknowledging competing perspectives. However, there are three key points where cultural complexity and integrative complexity diverge.

First, integrative complexity describes a particular way that a person constructs cognitive representations of two cultures, whereas cultural complexity requires no such condition. Instead, a self-identified monocultural can still demonstrate high cultural complexity as long as he or she is capable of simultaneously appreciating and criticizing cultural norms, just like the Taiwanese student we saw at the beginning. Second, cultural complexity does not require the integration of competing worldviews. A person does not have to forge a conceptual link between his or her incongruent evaluations of cultural norms. Third, Tadmor and Tetlock (2006) postulate that adopting a bicultural strategy (i.e., strong identification with both home and host cultures) in acculturation process leads to integrative complexity, whereas cultural complexity is not linked to cultural identification at the theoretical level. For instance, on the one hand, it is possible that for people who see culture as peripheral to their identity to turn a critical eye toward their culture (see also Hopkin, Hoyle, & Toner, 2014). On the other hand, Packer (2008) suggests that a strong group identifier could choose to criticize and disobey a group norm particularly when a norm is perceived to be harmful to the group. Therefore, strong and weak cultural identification could both be related to cultural complexity. To sum up, cultural complexity is different from integrative complexity in that it can be observed in monoculturals, needs not entail a conceptual

connection among judgements on culture, and is theoretically unrelated to cultural identity.

Intersubjective cultural representation and cultural complexity. Last, I will contrast cultural complexity with the intersubjective cultural representation approach (Chiu et al., 2010; Wan, Chiu, Peng, et al., 2007). This approach contends that cultural values that are collectively perceived to be important to most members in a culture is a conduit through which culture influences a wide array of behaviors, including cultural identification (Wan, Chiu, Peng, et al., 2007), social cognition (Zou et al., 2009), and political attitudes (Wan, Tam, & Chiu, 2010). Translated to practice, values with high intersubjective importance are determined through a two-step process. Respondents are given a list of values, and they rate the extent to which each of these values is important to them as well as the extent to which they believed it to be important to an average member of their group. The perceived importance ratings are then averaged to yield an index of intersubjective importance.

Cultural complexity and intersubjectively important values only overlaps minimally at the conceptual level. Both constructs are based on a clear separation of personal versus cultural norms or values, and both acknowledge that there is likely to be a dissociation between the two. On the other hand, two differences can be identified. First, in contrast to the intersubjective approach, cultural complexity champions a subjective perspective on culture—cultural norms may or may not be shared by members of a cultural group (Fischer et al., 2009). In other words, cultural complexity can be evident in what an individual believes without referring to the collective perception. Second, the focus of the constructs is different: Cultural complexity is derived from the variability in personal endorsement of perceived cultural norms, whereas the intersubjective approach looks at the overall levels (i.e., mean scores) of intersubjectively important values, personally important values, or relationships between the two. For the reasons

noted above, a clear distinction can be drawn between cultural complexity and the intersubjective representation approach.

Measuring Cultural Complexity

I have articulated the construct of cultural complexity—its defining features and how it is different from other concepts. The question that follows is how to measure it in a way that is in accordance with its characteristics. One intuitive, common method is to develop a Likert-type self-report scale with items explicitly about cultural complexity. However, there are some potential limitations to this methodology.

Because cultural complexity can be interpreted by lay people as a positive trait (imagine yourself responding to a question like: "I can see both the good and the bad in my culture."), it is very likely that social desirability could contaminate the results derived from such an approach. Moreover, it is unclear to what extent cultural complexity is easily accessible to people. Schwarz (1999) has argued that when reporting their attitudes, people do not retrieve all knowledge that could affect their judgment on a target. Instead, as long as the information searching process has yielded an evaluation with sufficient subjective certainty, people will stop and report the result. This perspective makes a direct self-report measure on cultural complexity highly susceptible to contextual influences. For instance, for an American who is committed to social justice, he or she might find it difficult to agree with a scale item assessing the ability to see both good and bad aspects of American culture; instead his or her answer might be skewed toward the negative side due to the salience of racial tensions that have received wide media coverage recently (i.e., high temporal accessibility; Higgins, 1996). Also, empirical studies on ambivalent attitudes point out that people can possess incongruent associations with an object without awareness (Newby-Clark et al., 2002).

These concerns could be effectively circumvented by modifying the Subjective Masculine Norms Questionnaire originally developed by Y. J. Wong et al. (2016) to a measure of cultural norms, from which cultural complexity can be indirectly inferred. I refer to this measure as the Subjective Cultural Norms Questionnaire (SCNQ). This questionnaire contains two sections. In short, participants first provide open-ended responses to describe six injunctive cultural norms they perceive to be widespread in their culture. Next, they are asked to indicate the degree of endorsement of these six norms on a 7-point Likert-type scale (see the Method section for a detailed description). The standard deviation of the six endorsement scores (rather than the mean score) serves as the index of cultural complexity.

This approach confers several methodological advantages. First, the intention of the scale is not obvious, thus minimizing the social desirability threat. In this sense, the cultural complexity measure can be considered implicit because it is not based on direct self-assessment of cultural complexity but inferred from self-reported endorsement of cultural norms (Gawronski & De Houwer, 2014). Second, the open question format allows people to compose whatever norms they perceive to be widely shared in their culture, which is consistent with the subjectivity proposition underlying cultural complexity. Having defined cultural complexity conceptually earlier in this chapter, I now supplement it with an operational definition of cultural complexity—the standard deviation of the level of endorsement across the six cultural norms in a person's responses to the SCNQ. This measure will be used in the three studies in this research.

Overview of the Studies and Predictions

In a set of three studies, I introduced the novel concept of cultural complexity to address gaps in the psychological literature on culture. The main purpose of this research was twofold: (a) to provide evidence supporting the validity of cultural complexity using both attitudinal and

behavioral outcomes, and (b) to test whether cultural complexity can be experimentally manipulated. To achieve these goals, I identified a nomological network of cultural complexity and employed different research designs to investigate its causal effects across multiple domains of outcomes (intergroup perceptions and behavioral outcomes).

Study 1 was a cross-sectional, correlational research that set up the nomological network of cultural complexity by inspecting the directions of its associations with other theoretically relevant variables. I proposed that dialecticism, the personality of openness, need for cognition, and low need for closure would contribute to cultural complexity, which in turn led to cultural humility, low cultural superiority, a less essentialized view of culture, and increased intercultural contact. Additionally, Study 1 also tested if the predicted pattern of correlations would be culturally invariant and if cross-cultural differences existed in levels of cultural complexity (American vs. Chinese). I hypothesized that the association patterns would hold cross-culturally, Chinese participants would have higher cultural complexity than Americans participants, and people would show higher cultural complexity when the target culture is more familiar.

Study 2 intended to bolster the validity of cultural complexity by investigating the role that cultural complexity played in intergroup perception through an experimental design with American college students. I first experimentally created identity threat (vs. no identity threat) and then assessed people's attitudes toward a racial ingroup and outgroup. Controlling for cultural identification, I anticipated that cultural complexity would not only temper prejudice toward an outgroup (main effect), but also moderate the relationship between identity threat and intergroup bias (interaction effect) in such a way that identity threat would only enhance intergroup bias for those low in cultural complexity.

Study 3 examined the relationship between cultural complexity and a biased information

seeking tendency. It built upon Study 2 in three key aspects. First, cultural complexity was experimentally manipulated rather than measured, suggesting that cultural complexity indeed caused changes in people's selective exposure to messages. Second, I recruited Chinese college students in China as participants to further examine the external validity of cultural complexity. Third, the impact of cultural complexity was assessed on a behavioral outcome—message selection. Specifically, I examined if cultural complexity affected Chinese participants' selection pattern (one-sided or balanced) of the type of information they wanted to read regarding a controversial issue involving China (i.e., the territorial disputes in the South China Sea). Participants were randomly assigned to one of the two conditions: high cultural complexity or control. I hypothesized that high cultural complexity would lead to a more balanced perspective on the issue than a preference for either pro-ingroup or anti-ingroup information.

Chapter II: Study 1: Nomological Network

This study aimed to establish the validity of cultural complexity through mapping its nomological network. First, with regard to antecedents, I surmised that cultural complexity would be positively related to dialectical thinking, a holistic cognitive mindset that is more accepting of change and has a higher tolerance of contradiction (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010), as the two have in common the tendency to accept seemingly contradictory elements. Indeed, research has shown that individuals with dialectical thinking are more likely to show emotional complexity (the co-occurrence of positive and negative feelings; Spencer-Rodgers, Peng, & Wang, 2010) and to endorse a self-view that emphasizes both the good and the bad aspects (Boucher, Peng, Shi, & Wang, 2009).

Second, I hypothesized that the Big-Five personality trait of openness to experience would be positively associated with cultural complexity, because presumably cognitive complexity demands cognitive resources and openness to experiences is commonly associated with traits that meet this demand (e.g., curious, intelligent, broad-minded; Barrick & Mount, 1991).

Third, to the extent that cultural complexity is more cognitively taxing than a valence-consistent profile of endorsing cultural norms, need for cognition is assumed to be positively correlated with cultural complexity. In other words, people who derive satisfaction from effortful information processing are expected to have higher level of cultural complexity than cognitive misers, as need for cognition prompts a thorough consideration of information available and reduces reliance on simple cues and stereotypes (Petty, Briñol, Loersch, & McCaslin, 2009).

The fourth hypothesis was a negative relationship between need for closure and cultural

complexity. Need for closure refers to the degree to which people feel uneasy in the face of cognitive uncertainty or ambiguity, which has been found to contribute to opinion uniformity in groups (Kruglanski, Pierro, Mannetti, & De Grada, 2006).

Concerning consequences, I predicted that cultural complexity would show negative relationships with a sense of superiority of one's culture and positively with cultural humility. It is conceivable that the ability to view one's cultural norms as containing something good and something bad would generate a sense of humility and decrease superiority, as one of the essential factors in humility is a recognition of one's strengths and weaknesses (McElroy et al., 2014; Tangney, 2000). Furthermore, I hypothesized that cultural complexity would be associated with a less essentialist view on culture because cultural complexity presumably promotes openness about culture and thus downplays a fixed, rigid categorical perspective on cultural groups. Finally, I anticipated that higher levels of cultural complexity would be positively linked to contact with racial/national outgroups, because of an open attitude towards one's culture and also because of research linking anti-essentialism and an increased motivation to cross category boundaries (Prentice & Miller, 2007; Rosenthal & Levy, 2016). To sum up, I proposed a model where cultural complexity mediates the relationships between the following theorized antecedents: dialectical thinking, openness to experience, need for cognition, and need for closure, and the following outcomes: cultural humility, cultural superiority, cultural essentialism, and intercultural contact (see Figure 1).

The last set of hypotheses situated cultural complexity in different cultural contexts (U.S. college students vs. Chinese international college students living in the United States). First, I expected the above theorized model would hold for both U.S. Americans and for Chinese. Second, due to Chinese people's stronger propensity of dialecticism relative to U.S. Americans

(Peng, Spencer-Rodgers, & Nian, 2006), I anticipated that Chinese people would demonstrate a higher level of cultural complexity than U.S. Americans. Third, presumably, increased knowledge about a culture endows people with more information from which they could develop both positive and negative evaluations. Evidence can be gleaned from the finding that people are more likely to respond positively and negatively to entities that they are familiar with than those they have little knowledge of (Brooks, Highhouse, Russell, & Mohr, 2003). Therefore, I hypothesized that cultural complexity be higher when Chinese participants evaluate Chinese versus U.S. cultures. Relatedly, I predicted that Chinese participants' cultural complexity of U.S. culture would be positively correlated with their familiarity with U.S. culture.

Method

Participants

Participants were 220 participants (127 U.S. American and 93 international students of Chinese descent) studying in colleges or graduate schools in the U.S. Data from one participant was deleted due to conspicuously random response pattern, resulting in a final sample size of 219 (age M = 23.47 years, SD = 3.83, range = 18-33 years; 61% female and 39% male, excluding 37 participants who did not indicate their gender). For the 127 U.S. students, the average age was 21.42 years, SD = 2.66, range = 18-30 years; 72.4% female and 27.6% male; 85.7% White, 5.7% Hispanic, 3.8% Asian, 1.9% Black, 1% Native, and 1.9% multiracial. With respect to the 92 Chinese international students, the average age was 26.29 years, SD = 3.39, range = 19-33 years; 45.5% female and 54.5% male.

Procedure

Participants were recruited through social media (e.g., Facebook), listservs (e.g., Chinese student organizations, students taking counseling classes), Craigslist, and flyers. Participants

were informed of the voluntary nature of their participation and were given the opportunity to enter in a draw for a $20 Amazon gift card upon the completion of this study. Participants were instructed to fill out an online survey with all the following measures using a computer or smartphone of their choice. They were told to complete the survey in a quiet environment free of distractions. Chinese participants were asked to complete the SCNQ twice, with Chinese and U.S. American as the target cultures, respectively. At the end of the survey, all participants answered some demographic questions, and Chinese participants were additionally asked to report how familiar they are with U.S. culture.

Measures

Cultural complexity. An adapted version of the Subjective Masculine Norms Questionnaire (Y. J. Wong et al., 2016) was used throughout this research to assess cultural complexity. This modified measure, namely, the SCNQ, consists of two parts. Participants are first asked to come up with three prescriptive norms and three proscriptive norms through a semi-structured format. In particular, participants complete the sentences "In *American* [Chinese] culture, most people believe that individuals should" and "In *American* [Chinese] culture, most people believe that individuals should NOT" three times for each. Soliciting these two types of cultural norms has the advantage of covering a broader range of subjective norms. Furthermore, by solely focusing on injunctive norms rather than descriptive norms, SCNQ avoids conflating descriptive norms with stereotypes. For example, the statement that "most Americans are dog lovers" can be a descriptive norm as well as a stereotype.

In the second part, participants indicate the degree to which they agree or disagree with the six subjective cultural norms they generate on a 7-point Likert-type scale ranging from 1 = *Strongly disagree* to 7 = *Strongly agree*. The standard deviation across the six responses to the

subjective norms is the index of cultural complexity, with a higher value reflecting a higher level of cultural complexity. To illustrate, a person whose endorsement scores of the six norms are 2, 2, 2, 4, 4, 4 will have a score of 1 (standard deviation of the six values) on cultural complexity.

Dialecticism. Participants completed the 14-item brief version of Dialectical Self Scale (DSS; Spencer-Rodgers, Peng, Wang, & Hou, 2004), with items such as "When I hear two sides of an argument, I often agree with both" rated on a 1 (*Strongly disagree*) to 7 (*Strongly agree*) scale. The DSS possesses adequate cross-cultural validity and reliability. Specifically, past research indicated that DSS was negatively correlated with self-concept stability and favorable attitudes towards ingroup for East-Asian (including both Asians and Asian Americans) and European-heritage participants (Ma-Kellams, Spencer-Rodgers, & Peng, 2011; Spencer-Rodgers et al., 2004). With regard to reliability, alpha coefficients for DSS ranged from .67 to .73 and from .82 to .86 for Asian-heritage participants and European-heritage participants, respectively (Spencer-Rodgers et al., 2004; Spencer-Rodgers, et al., 2010). The Cronbach's alphas for this study were .71 for U.S. sample and .87 for Chinese sample.

Need for cognition. The 18-item Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984) measures dispositional differences in intrinsic motivation to engage in and enjoy effortful cognitive endeavors (sample item: "I enjoy abstract thinking"). Items are rated on a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*) and an overall score is computed as the mean of all items. Higher scores on this scale indicate greater need for cognition. Past research found that for Chinese participants, need for cognition was associated positively with concern for truth and openness to experience, with Cronbach's alphas ranging from .84 to .88 (Ku & Ho, 2010). For U.S. participants, Carnevale, Inbar, and Lerner (2011) reported that need for cognition was linked to better decision-making competence; Cronbach's alpha was .90 according to Cacioppo

et al. (1984). This scale exhibited good to excellent reliability based on the current sample, with Cronbach's alphas of .88 and .93 for U.S. and Chinese samples, respectively.

Openness. The openness subscale from the 40-Item Mini Marker Set (Saucier, 1994) assesses the Big-Five personality factors of openness to experience (hereafter openness). Participants indicate how accurate eight adjectives related to openness describe themselves on a 9-point scale ranging from 1 (*Extremely inaccurate*) to 9 (*Extremely accurate*). Sample adjectives are "Creative" and "Imaginative." Evidence of construct validity was reported by S. S. Wong, Lee, Ang, Oei, and Ng (2009) who found that for Singaporean Chinese, openness was correlated positively and negatively with optimism and pessimism, respectively. The Cronbach's alpha was reported to vary between .70 to .76 (Chen, Xie, & Chang, 2011; S. S. Wong et al., 2009). In addition, based on American samples, past studies indicated a positive association between openness and creativity (Kelly, 2006), and a Cronbach's alpha of .78 was reported (Saucier, 1994; Tangney, Baumeister, & Boone, 2004). For this study, the scale demonstrated acceptable reliability for U.S. participants ($\alpha = .72$) and excellent reliability for Chinese sample ($\alpha = .93$).

Need for closure. The brief, 15-item version of the Need for Closure Scale (Roets & Van Hiel, 2011) measures an individual's inclination to "seize" on cognitive closure quickly and a desire to maintain or "freeze" on closure. A sample item includes: "I dislike unpredictable situations." All items were rated on a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*). An overall score is computed as the mean of all items, with higher scores on this scale reflecting greater need for closure. Evidence of construct validity was provided by Roets, Soetens, Au and Guan (2014) who revealed a positive correlation between need for closure and seeing choices as a burden for both Chinese and American samples, with Cronbach's alphas ranging from .82

to .87. In this study, I found Cronbach's alphas of .81 and .95 for U.S. and Chinese participants, respectively.

Cultural superiority. A sense of cultural superiority was assessed by the superiority subscale in the Measure of Identification with Groups (Roccas, Sagiv, Schwartz, Halevy, & Eidelson, 2008). This scale was modified to refer to the participants' affiliation with other members with the same nationality (Roccas et al., 2008). Participants were asked to report their level of agreement (1 = *Strongly disagree*, 7 = *Strongly agree*) with statements regarding their affiliation with other nationals. A sample item is "Relative to other nations, we (Americans/Chinese) are very moral." The measure includes five items and scores reflect the mean of all items, with a higher value denoting a greater sense of superiority. Sagiv, Roccas, and Hazan provided preliminary support for the construct validity by showing that participants' perceived group superiority increased when high group status was experimentally created (as cited in Roccas et al., 2008). Rinker and Neighbors (2014) demonstrated that the Cronbach's alpha was .83 for American college students. No construct validity information was available for Chinese participants. The current study showed the Cronbach's alphas were .78 for the U.S. sample and .88 for the Chinese sample.

Cultural humility. The abbreviated Specific Intellectual Humility Scale consisting of three items was used to measure humility regarding one's cultural knowledge (Hoyle, Davisson, Diebels, & Leary, 2016). Participants report their degree of agreement on a 7-point Likert-type scale with 1 = *Strongly disagree* and 7 = *Strongly agree*. A sample item is: "My views about American culture today may someday turn out to be wrong." Holye et al. found a reduction in intellectual humility as people's stance became more extreme in various topics, lending support to its construct validity. They also reported coefficient alphas that ranged from .77 to .86. The

scale demonstrated good reliability based on the current sample (α = .80 and .87 for the U.S. and Chinese samples, respectively).

Cultural essentialism. The Cultural Essentialism Scale measures the degree to which an individual sees culture as a trait-like, stable feature that defines a person and influences his or her behavior (Fischer, 2011). This scale contains 15 items, with sample items as follows: "Culture is a central aspect of a person's personality, it defines who you are", "People who belong to a different culture are a distinct type of person." Responses are recorded on a 7-point Likert-type scale (1 = "*Strongly disagree*", 7 = "*Strongly agree*"). Cultural essentialism has been shown to correlate positively with open-mindedness and a motivation to understand other culture, with Cronbach's alphas varying between .67 to .74 for a New Zealander sample (Fischer, 2011). For the current study, Cronbach's alphas of .64 and .91 were found for the U.S. and Chinese samples, respectively.

Familiarity with American culture. Chinese participants responded to a single-item measure: "To what degree are you familiar with American culture?" on a 5-point Likert type scale ranging from 1 (*Not at all familiar*) to 5 (*Extremely familiar*).

Intergroup contact. A 4-item measure of intergroup contact and friendship on a scale of 1 (*Not at all*) to 7 (*A lot*) was administered. Specifically, participants self-reported the amount of: (1) chatting with students at their university from racial/ethnic groups other than their own, (2) doing social things with students at their university from racial/ethnic groups other than their own, (3) having friends from racial/ethnic groups other than their own, and (4) visiting friends from racial/ethnic groups other than their own in those friends' homes (Rosenthal & Levy, 2016). A mean score is calculated to create an index of intergroup contact, with higher scores reflecting increased contact with outgroups. Evidence of construct validity was shown by a

positive correlation with polyculturalism (Rosenthal & Levy, 2016). Cronbach's alphas fell between .85 and .89 in a racially diverse sample composed of both participants born in and outside of U.S. (Rosenthal & Levy, 2016). Excellent reliability (α = .90 for U.S. and .96 for Chinese participants) was found for the present study.

Results

Preliminary Analyses and Data Analytic Plans

According to Fritz and MacKinnon (2007), a sample of 71 is required to detect a significant mediation effect using bias-corrected bootstrapping, assuming power = .80 and coefficients for paths a and b = .39. Hence, the sample size of 219 participants for this study was sufficient.

I first examined potential associations between demographic variables and the main variables. Results from independent *t* tests showed that among the nine variables of interest, male participants scored significantly higher than female participants only on dialecticism, $p < .05$. At the bivariate level, Pearson correlations revealed that age was significantly associated with five out of nine main variables (cultural complexity, dialecticism, need for closure, openness, cultural essentialism), $p < .05$. However, the decision was made not to include age as a covariate because (a) there was no convincing conceptual and empirical reason to do so, and (b) the results were almost identical when age was added as a covariate in my analyses (see Appendix I).

To handle missing values in the main study variables, I used the Expectation-Maximization (EM) algorithm, a maximum likelihood method that scholars have recommended over older missing data methods, such as mean substitution or listwise deletion (Schafer & Graham, 2002). There was no evidence suggesting that the data were not missing completely at

random, $\chi^2(44) = 42.49$, $p = .54$. Hence, the EM algorithm was used to generate imputed values. All subsequent analyses were conducted after imputation of missing data.

Because I proposed cultural complexity as a unique construct that is conceptually distinct from the endorsement of subjective cultural norms (based on the mean of SCNQ items), I inspected the correlation between the two. A significantly negative correlation with moderate strength was found, $r = -.41$. I further compared the patterns of association with other variables of cultural complexity and of the SCNQ mean score. Cultural complexity was significantly related to all eight variables, whereas only four correlation coefficients were significant for the SCNQ mean score (see Table 1a). These findings suggest that cultural complexity and the endorsement of subjective cultural norms are related but distinct constructs.

The first set of hypotheses pertained to the models of cultural complexity as a mediator linking the pathways of theorized four antecedents and four consequences. Pearson's *r* correlation was used to test if the theorized relationships among all variables could be observed at the bivariate level. Second, to test the 16 mediation models (four antecedents × four consequences), I used bias-corrected bootstrapping by creating 5,000 bootstrap samples (Fritz & MacKinnon, 2007). An SPSS analytical tool, PROCESS, which combines regression and bootstrapping methods, was employed to test all mediation models (Hayes, 2013). Significant mediation effects would be assumed if the 95% confidence intervals (CIs) of the indirect effects excluded zero. It should be emphasized that a significant relationship between the predictor and outcome is not a criterion for a significant mediation effect (Hayes, 2009). I did not use structural equation modeling to examine our mediation effects because my sample size was too small to accommodate latent variables.

To address the second set of hypotheses that situated cultural complexity in different

cultural contexts, I first divided the samples into U.S. and Chinese subgroups and performed the 16 mediation analyses with both samples to test if cultural complexity was a significant mediator for these two subgroups. Of note, I did not test for structural invariance of mediation effects. I also ran *t*-tests to examine if (a) Chinese participants had higher cultural complexity than Americans concerning their own respective national cultures, and (b) if Chinese participants demonstrated stronger cultural complexity when they rated Chinese culture compared to U.S. American culture.

Main Analyses

All the correlation coefficients between cultural complexity and the hypothesized antecedents and consequences were significant at $p < .01$ and in the predicted direction, providing preliminary support for the hypothesized nomological network (see Table 1a). In the regression models, consistent with the proposed nomological network, the bootstrap results indicated that cultural complexity was a significant mediator between all hypothesized antecedents and outcomes. That is, all 16 mediation models were significant, rendering strong support for the nomological network (Table 2a).

With respect to the second set of hypotheses, results of correlation and mediation analyses for both the U.S. and Chinese samples revealed that cultural complexity appeared to function differently for these two samples, in contradiction to my hypothesis. At the bivariate level, cultural complexity was only significantly and positively associated with dialecticism ($r = .25$), but not with any of the other variables for U.S. participants. Standing in stark contrast, all correlational relationships were significant and in the predicted direction for Chinese individuals (Table 1b). Likewise, mediation analyses uncovered that for the U.S. sample, only one out of 16 models whose 95% CI did not include zero: the mediation path from dialecticism to cultural

complexity to intergroup contact, B = .08, SE = .05, 95% CI [.003, .217] (Table 2b). Furthermore, the effect sizes were all very small, ranging from -.04 to .05, with the majority of them falling into the range of -.01 to .01. For Chinese participants, except for three models (cultural complexity as the mediator between dialecticism and cultural essentialism, between need for closure and cultural superiority, and between need for closure and cultural essentialism), cultural complexity was found to have a significant mediation effect for the 13 remaining models (Table 2c). Taken together, the hypothesized nomological network held for the most part for Chinese international students but not for U.S. students.

In addition, a series of *t*-tests were performed to examine if significant differences existed in levels of cultural complexity. When comparing cultural complexity of each sample evaluating their respective culture, Chinese participants did not differ significantly from U.S. participants in cultural complexity, $t(217) = 1.20$, $p = .23$. Furthermore, as Chinese participants reported cultural complexity for both Chinese and U.S. cultures, I tested the hypothesis that their cultural complexity would be higher for Chinese culture relative to U.S. culture. A paired samples *t*-test did not lend support to the hypothesis, $t(79) = -1.46$, $p = .15$. Similarly, the hypothesis that U.S. participants would demonstrate higher cultural complexity than Chinese participants with the target culture being U.S. culture was not supported. Instead, Chinese participants had greater cultural complexity than US participants with regard to U.S. culture, $t(217) = 2.17$, $p < .05$. I conjectured that dialecticism may be a possible explanation for this unexpected finding. Specifically, because dialecticism has its root in Taoism, an Eastern intellectual tradition (Peng, Spencer-Rodgers, & Nian, 2006), I conducted a posthoc analysis to test the idea that dialecticism would mediate the nationality differences in cultural complexity. A *t*-test revealed that the Chinese sample had a higher degree of dialecticism than the U.S. sample, $t(143.24) = 4.02$, p

< .01, and this difference mediated the relationship between nationality and cultural complexity, *B* = .18, 95% CI [.09, .32], completely standardized indirect effect = .12, 95% CI [.06, .20]. Finally, I examined if Chinese participants' cultural complexity of U.S. culture was related to their degree of familiarity with U.S. culture. Pearson's *r* showed a significant positive correlation between the two ($r = .34$, $p < .01$), providing some evidence for the hypothesis.

Discussion

The main purpose of Study 1 was to situate the novel construct of cultural complexity in theoretically driven models consisting of personality variables as antecedents and culturally relevant variables as consequences. Cultural complexity and the endorsement of subjective cultural norms were differentially related to other conceptually relevant variables, indicating that cultural complexity was a distinct construct from the endorsement of subjective cultural norms. However, the results depicted a somewhat puzzling picture of cultural complexity. When the unit of analysis was the entire sample, regardless of cultural background, cultural complexity functioned as predicted. All correlation coefficients between cultural complexity and the proposed antecedents and consequences were significant. Additionally, the findings that cultural complexity was a significant mediator in all 16 models supported the nomological network in which dialectical thinking (expectation of change and tolerance of ambivalence), low need for closure (desire for a definite answer to a question and the eschewal of ambiguity), need for cognition, and openness to experience seemed to contribute to cultural complexity, which in turn increased individuals' humble attitude toward their culture, decreased cultural superiority/ethnocentrism, and facilitated interactions with people from different ethnic/racial backgrounds.

However, surprisingly, I found evidence suggesting that the hypothesized nomological

network only held for Chinese international students but not for U.S. college students. First, at the bivariate level, cultural complexity was significantly linked to all variables for the Chinese sample, but only positively and significantly correlated with dialecticism for the U.S. sample. Second, with respect to mediation analyses, for the Chinese international student sample, the mediating effect of cultural complexity was significant in 13 out of 16 models (except the following three models: dialecticism ➔ cultural complexity ➔ cultural essentialism, need for closure ➔ cultural complexity ➔ cultural superiority, and need for closure ➔ cultural complexity ➔ cultural essentialism). On the contrary, for the U.S. student sample, cultural complexity did not mediate any of the relationships between all antecedents and consequences. Perhaps cultural complexity is a more meaningful construct for Chinese international students because the situation they face predisposes them to an enhanced accessibility of the cultural dimension of their identity. According to the social-cognitive view, self-concept is a network of identity schemas where individuals balance multiple identities and that only a few are activated in consciousness at a given time (Skitka, 2003). As such, the ability to see culture as consisting of both good and bad will only exert its influence when cultural facet of the self is cognitively accessible. Consequently, for Chinese international students, their unique experience as an expatriate in a new country may heighten the sense of salience of their identity vis-à-vis the out-group (e.g., U.S. culture), and thus strengthens the effects of cultural complexity in my theorized models. Another alternative explanation is selection bias. Chinese international students could be a selective group who might be more predisposed to the positive effects of cultural complexity since they chose to study in the U.S.

Besides this unexpected finding, the general hypothesis that familiarity of a culture breeds cultural complexity received inconsistent support in Study 1. On the one hand, contrary

to the hypothesis, when evaluating U.S. culture of which U.S. participants presumably were more knowledgeable than Chinese participants, U.S. participants demonstrated lower cultural complexity than Chinese participants did. On the other hand, Chinese participants' degree of familiarity with U.S. culture was positively associated with their level of cultural complexity of U.S. culture. I surmised that there are at least three other factors, in addition to familiarity with a culture, that may account for the findings.

First, literature has shown that dialecticism is more prevalent in East Asian cultures relative to U.S. culture (Spencer-Rodgers, Williams, & Peng, 2010), which was also the case for the current study. To the extent that dialecticism is conducive to cultural complexity, one should expect Chinese people to be more inclined to cultural complexity than U.S. Americans. Second, Benet-Martinez, Lee, and Liu (2006) uncovered that individuals who had extensive exposure to two cultures formed more complex cultural representations relative to monoculturals because they were more likely to spend considerable effort in understanding their host culture and developing strategies to adapt to it. This experience may increase individuals' ability to detect, process, and organize everyday cultural meaning, which appeared to be a plausible explanation for why Chinese international students in this study reported higher cultural complexity than U.S. students. Finally, because of a strong dialectical mindset, Chinese individuals were found to exhibit in-group derogation, meaning that they are prone to have relatively negative ingroup attitudes (Ma-Kellams et al., 2011). As group identity satisfaction was associated with endorsement of subjective group norms (Y. J. Wong et al., 2016), it makes conceptual sense that Chinese participants' unfavorable feeling toward their group could lead to a weaker level of endorsement of cultural norms. Theoretically and statistically speaking, if the endorsement level is low in general, it leaves little room for variation, and thus a reduced cultural complexity for

Chinese culture is observed for Chinese participants.

To sum up, Study 1 depicted a mix picture of how cultural complexity relates to the hypothesized antecedents and consequences. The proposed nomological network received support when the unit of analysis was the entire sample, but further breakdown of the sample revealed that the mediating effect of cultural complexity was only evident for Chinese international students, not for U.S. college students. These findings may be attributable to the differences in the degree to which culture is prominent in individuals' mind. Chinese international student's experiences adjusting to the host culture and their being perceived by others as distinct could make cultural knowledge highly central to their self-definitions. Cultural complexity is thus more likely to be a meaningful construct for Chinese international students.

My ability to draw conclusions from this study is limited because of several concerns. First, this study utilized a correlational design to evaluate theorized causal relationships. Despite the theoretical foundation and some statistical evidence supporting the nomological network, there could be extraneous factors undermining the validity of the findings, such as cultural identity (i.e., a person's subjective orientation toward his or her cultural group). Second, the universality of cultural complexity was unclear—the absence of support for the U.S. student sample could be due to the lack of accessibility in memory or selection bias. Third, the consequences in the nomological network were limited, and they did not include people's attitudes toward other cultures. Fourth, the reliability of some outcome measures for U.S. sample were low (e.g., $\alpha = .71$ for DSS, $\alpha = .64$ for Cultural Essentialism Scale), raising concerns over the results. Given the above issues, Study 2 employed an experimental design, controlled for cultural identity, focused on U.S. college students, and made culture temporarily salient by the presence of a racial outgroup.

Chapter III: Study 2: Intergroup Perceptions

Study 1 provided preliminary evidence for the validity of cultural complexity. Study 2 aimed to further establish the predictive power of cultural complexity by examining the role that cultural complexity plays in intergroup processes. Specifically, U.S. participants were randomly assigned to identity threat vs. no threat conditions. Participants' perceived level of cultural identity threat was manipulated by presenting them with different results of how a fictitious group of Chinese people think about U.S. Americans (see Voci, 2006). After the manipulation, participants completed measures of intergroup bias, breaking down into two components (as suggested by Greenwald & Pettigrew, 2014): feelings towards U.S. Americans (ingroup) and Chinese (outgroup). To increase the power of the study, besides directly assessing the affective dimension of attitude towards ingroup and outgroup, I included an indirect measure of the cognitive dimension of attitude toward outgroup, namely, the desirability of personality traits that U.S. Americans associate with Chinese. Investigating both cognitive and affective dimensions of intergroup attitudes was important because research has shown that these dimensions are uniquely associated with intergroup interaction variables, such as ingroup and outgroup evaluations, intergroup bias, and intergroup conflict (Jackson, 2002).

Past studies have uncovered that when a group's esteem is threatened, strong group identifiers display a heightened intergroup bias, manifested as either outgroup derogation (Branscombe & Wann, 1994) or both ingroup love and outgroup hate (Voci, 2006). Therefore, I statistically controlled for cultural identification to untangle the effect of cultural complexity on reactions to group identity threat. I put forth two hypotheses: (a) cultural complexity would lessen intergroup bias by reducing outgroup derogation, and (b) identity threat would enhance intergroup bias, but cultural complexity was hypothesized to moderate this relationship, such that

cultural complexity would attenuate the effect of identity threat on intergroup bias. The rationale was twofold. First, Study 1 suggested that cultural complexity was associated with a humble evaluation of one's ingroup and an open, tolerant attitude toward outgroups. Humility may be theoretically irrelevant to ingroup positivity, but both humility and tolerance were shown to assuage outgroup prejudice (Aboud, 2003; Hodson & Dhont, 2015). Second, cultural complexity may decrease the tendency to see one's culture as a tight group with clear boundary, which then fosters openness to criticism. Indirect support for this prediction can be gleaned from empirical finding that people who endorsed polyculturalism (a de-essentialized view of culture that is also a premise of cultural complexity) were more open to criticisms about their own culture (Rosenthal, Levy, & Moss, 2012).

Method

Participants and Procedure

A total of 400 U.S. college/graduate students above the age of 18 were recruited for this study through Amazon Mechanical Turk, Craigslist, flyers distributed on IU campus, and emails sent to IU students in counseling minor. Participants were offered an opportunity to enter a draw to earn a $20 Amazon gift card upon completion. After deleting data from participants who did not respond to any measures (186 cases) and whose responses demonstrated a conspicuously random pattern (3 cases), the final sample size consisted of 211 students (average age = 23.59, *SD* = 5.64, range 18-49; White 72.1%, Asian 9.6%, Black 8.2%, Hispanic 3.4%, Native 0.5%, other 6.3%; 68.3% female, 30.3% male, 0.5% others; three participants did not indicate their race and gender).

Participants were randomly assigned to the experimental (identity threat) or control (no threat) conditions. Cultural complexity and cultural identification were measured for all the

participants. The study thereby constituted an Identity Threat (threat vs. no threat) × Cultural Complexity (continuously scored) design. The dependent variables were the desirability of traits reported to be indicative of Chinese and attitudes towards ingroup and outgroup (adapted from Voci, 2006).

Participants were informed that the study consisted of two separate sessions. First, participants filled out an online survey composed of SCNQ, cultural identity, and other filler questions. In the second session, participants were told that the purpose of the study was to explore the reciprocal perceptions of Chinese and U.S. Americans. Next, participants were led to believe that the data concerning Chinese participants had already been collected, and as an example of the type of research conducted, a fictitious result was presented to them. Participants then saw a graph with histograms that showed four traits that the Chinese participants allegedly endorsed as typical of U.S. Americans (see Appendix J). In addition, the traits were paired with the degree of desirability (0-10, the higher the more desirable) rated by the Chinese participants. For the identity threat condition, four negative traits and low desirability ratings were shown (arrogant, 0.5; ignorant, 1.1; annoying, 1.2; and materialistic, 1.8). For the control condition, the graph was composed of four neutral traits and medium desirability ratings (bold, 5.4; proud, 5.6; excitable, 5.1; normal, 5.5). These traits were selected because Alicke (1985) and Teasdale and Russell (1983) have included them as neutral characteristics in their studies, based on Anderson (1968) list of 555 likability ratings of personality traits. The desirability scores were fabricated by me to emphasize its perceived negativity and neutrality of the results for identity threat and no threat conditions, respectively.

After the manipulation, participants were asked to write down four traits that they believed to be indicative of a typical Chinese and rated how desirable they deemed each trait to

be. They also responded to feelings thermometer scales as a measure of their attitudes toward U.S. Americans and Chinese. Finally, all participants were fully debriefed on completion of the survey prior to proceeding to the raffle for the gift cards.

Measures

Cultural complexity. The standard deviation of SCNQ scores was used to assess cultural complexity.

American identification. Participants reported their agreement to four statements of American identification on a 7-point Liker scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The items were "I strongly identify with American culture," "I am proud of being an American," "I belong to American culture," and "I like American culture" (Wan, Chiu, Tam, et al., 2007). Wan, Chiu, Tam et al. found that participants' American identification increased after core American values were made salient, lending support to its construct validity. They also reported the Cronbach alphas of the scale ranging from .91 to .97. For the current study, the alpha was .89.

Intergroup attitudes. A feelings thermometer (Haddock, Zanna, & Esses, 1993) was employed to measure intergroup bias. Participants indicated their attitudes toward two groups (U.S. Americans and Chinese) on the widely used and validated feelings thermometer with responses ranging from 0 °C (extremely unfavorable) to 100 °C (extremely favorable; Hodson & Costello, 2007; Turner, Hewstone, Voci, & Vonofakou, 2008). Ratings for U.S. Americans and Chinese reflected participants' ingroup favoritism and outgroup derogation, respectively. Evidence of construct validity can be gathered from Turner et al. who found that outgroup attitudes as measured by a feelings thermometer were associated positively with cross-group friendship and negatively with intergroup anxiety.

Desirability of personality traits. Participants were asked to write down four adjectives that they think can describe a typical Chinese. Second, they reported the degree to which the adjectives were desirable on a 11-point Likert scale (0 = *Bad to have*, 5 = *Neutral*, 10 = *Good to have*; Alicke, 1985). Participants' desirability ratings on these four traits were averaged to form an index of outgroup perception, with higher scores representing more positive perception of outgroup members.

Results

I used the Free Statistics Calculators (Version 4.0; Soper, 2018) to acquire the minimum number of participants required for hierarchical multiple regression analyses, with the following criteria: power = .80, α = .05, and both a medium (f^2= .15) and a small effect sizes (f^2= .02). I found that samples of 102 and 689 are required to detect a medium and a small effect sizes, respectively. Therefore, the sample size of the current study of 211 was sufficient to detect only a medium effect size.

Preliminary analyses were conducted to assess whether study variables differed as between gender, age, race, and socioeconomic status. Results indicated that age was significantly correlated with feeling toward Americans (r = -.15, p < .05) and desirability of personality traits (r = .15, p < .05); socioeconomic status was significantly associated with feeling toward Americans (r = -.18, p < .01). Thus, age and socioeconomic status were used as covariates in the regression analyses. I also examined the correlations between endorsement of subjective cultural norms (based on mean scores from the SCNQ) and study variables. Replicating the result of Study 1, endorsement of subjective cultural norms was moderately and negatively linked to cultural complexity, r = -.43, p < .01. Moreover, it was significantly and positively correlated with American identity and feelings toward U.S. Americans, rs = .54

and .24, respectively, both *p*s < .01. I did not include endorsement of subjective cultural norms as a covariate because repeating the analyses with and without it indicated that the results were essentially identical.

To handle missing values in the main study variables, I utilized the EM algorithm as in Study 1. The percentage of missing data was less than 2.8%, and it appeared that data was missing completely at random, $\chi^2(12) = 17.51$, $p = .13$. Hence, the EM algorithm was used to generate imputed values. All subsequent analyses were conducted after imputation of missing data. Descriptive statistics and intercorrelations among the main variables are reported in Table 3.

Three hierarchical multiple regression analyses were performed with the criterion variables being (1) feelings towards ingroup (i.e., U.S. Americans), (2) feelings towards outgroup (i.e., Chinese; both as indicated by the feelings thermometer), and (3) cognitive evaluation of outgroup members. In each model, age, socioeconomic status, and cultural identification were entered in the first step as control variables. In Step 2, cultural complexity and condition (no identity threat, coded as 0, vs. identity threat, coded as 1) were added. The interaction term between cultural complexity and condition was included in Step 3. Visual inspection of scatter plots found no evidence of nonlinear relationships among cultural complexity the three outcome variables. Residual normality assumption in regression was assessed. Examination of the residuals indicated that normality assumption was held, as evidenced by histograms and P-P plots. Furthermore, the skewness (-.58 to -.29) and kurtosis (-0.12 to 1.36) of the residual scores did not indicate a significant departure from normal distribution. Last, homoscedasticity appeared to be met as the variations across all predicted values were roughly equal. To facilitate the interpretation of results, continuous predictors were

centered before entering the regression models.

Effect of Experimental Manipulation on Dependent Measures

To judge the effectiveness of the experimental manipulation, I compared the mean between no identity threat and identity threat conditions using independent samples *t*-tests. Participants in the identity threat condition reported slightly stronger, but not statistically significant, negative feelings toward Chinese people ($t[209] = 1.72$, $p = .09$) and significantly less favorable cognitive evaluation of Chinese people ($t[209] = -3.64$, $p < .01$). No difference was found for feelings toward U.S. Americans ($t[209] = -0.83$, $p = .41$).

Relationship between Cultural Complexity and Ingroup Favoritism

The results of the regression analyses are presented in Table 4. The first hierarchical multiple regression model with feelings toward U.S. American as the criterion variable revealed that American identification was significantly and positively related to feelings toward U.S. Americans, and the R^2 for the full model was also significant. In Step 2, the entire model R^2, but not ΔR^2, was significant. In terms of predictors, neither condition nor cultural complexity showed significant relationships with feelings toward Americans, *p*s = .48 and .08, respectively. . In Step 3, there was a null effect of the interaction between cultural complexity and condition. Same as Step 2, the R^2 for the full model was significant, $p < .001$, but not for ΔR^2. In short, results demonstrated that American identification, but not identity threat nor cultural complexity, was associated with enhanced ingroup favoritism.

Relationship between Cultural Complexity and Outgroup Derogation

I then turned to outgroup derogation, using feelings toward Chinese people and cognitive evaluation of Chinese people as two indicators. In terms of the affective dimension of outgroup attitude, in Step 1, neither the full model nor the three variables was significant. In Step 2, the

strength of association between condition and feelings toward Chinese people was close to significance ($p = .09$), showing a trend of less favorable feelings toward Chinese people in the identity threat condition relative to no identity threat condition. Additionally, cultural complexity was associated with a warmer feeling toward Chinese people. For this model, both R^2 and ΔR^2 were significant, with $p = .02$ and $p < .001$, respectively. In Step 3, the full model R^2 was significant, but no interaction effect was found. Although the expected interaction effect was not detected, the significant main effect of cultural complexity provided some evidence that it facilitates intergroup interaction through promoting a positive feeling toward an outgroup.

Finally, with regard to the cognitive dimension of outgroup attitude, the R^2 for Step 1 appeared significant, with age being significantly and positively linked to a more favorable evaluation of Chinese people, whereas American identification showed a negative, albeit non-significant, relationship ($p = .07$). When condition and cultural complexity were entered into Step 2, they both significantly predicted cognitive evaluation of the outgroup: condition was correlated negatively while cultural complexity was associated positively with the criterion variable. For this model, R^2 ($p < .001$) and ΔR^2 ($p < .001$) both reached significance. Similar to the previous two regression models, the interaction term failed to show a significant relationship, so my moderation hypothesis was not supported. However, the main effect of cultural complexity was again observed, lending support to another route through which cultural complexity benefits intergroup contact.

Discussion

Study 2 adopted an experimental design to test if U.S. college students' cultural complexity would temper intergroup bias, manifesting as ingroup favoritism and/or outgroup derogation, when their ingroup identity was attacked. Although I found no evidence buttressing

the moderation hypothesis of cultural complexity on identity threat, results from Study 2 identified a main effect of cultural complexity and helped shed light on how cultural complexity operates in an intergroup context.

First, Study 2 addressed a concern raised in Study 1. That is, a possible explanation of the null mediation effects of cultural complexity in U.S. student population pertains to the degree of saliency cultural knowledge is in one's mind. Study 2 rendered some empirical bases for this line of reasoning. In Study 2, U.S. participants' cultural identity was brought to the forefront by presenting them with an imagined, relevant racial outgroup (Chinese people) judging their ingroup identity (Wilder & Shapiro, 1984). Under this manipulation, the role that cultural complexity played in intergroup bias emerged for U.S. participants—compared to individuals with low cultural complexity, those with higher cultural complexity were less biased against the outgroup, as evidenced by a significantly more positive attitude toward the outgroup on both affective and cognitive dimensions. Interestingly, although not statistically significant, I observed a trend in which cultural complexity was positively linked to feelings toward ingroup. In hindsight, I surmised that in intergroup contexts, cultural complexity may be conducive to a more encompassing, balanced attitude where both ingroup and outgroup are equally valued, which may be functionally similar to the notion of dialecticism where opposing arguments can both be right.

Second, it is noteworthy that cultural complexity was associated with reduced outgroup derogation (engendering a warmer feeling toward and forming a more favorable evaluation of outgroup members) rather than ingroup favoritism in an intergroup contact situation. This finding stands in contrast with the literature on intergroup bias because the biases uncovered in social psychological research predominantly takes the form of mild ingroup favoritism instead of

outgroup derogation (Greenwald & Pettigrew, 2014; Hewstone, Rubin, & Willis, 2002).

Third, one possible explanation for the null finding of interaction effects is that threats tend to be instinctive and visceral, rendering them less responsive to the mitigating effect of cultural complexity. Once individuals perceive a threat, a series of physiological reactions are triggered in the autonomic nervous system and hypothalamic-pituitary-adrenal axis, such as the activation of amygdala, the right dorsolateral prefrontal cortex left superior frontal gyrus, right anterior insula, caudate-nucleus accumbens hypothalamus (Coan, Schaefer, & Davidson, 2006). Regulating these threat responses may require cognitive resources (McRae et al., 2012) that exceed what cultural complexity has to offer.

Collectively, although identity threat did not interact with cultural complexity to shape intergroup bias, cultural complexity itself was related to the reduction of intergroup bias for U.S. college students by countering the tendency to derogate outgroup members. All in all, Studies 1 and 2 attested to the validity of cultural complexity, suggesting that when culture knowledge is salient for both Chinese international students and U.S. college students, cultural complexity exerts its influences on culturally relevant psychological processes. However, because my hypotheses were not uniformly supported, more empirical data is warranted. Although Study 2 utilized an experimental design, cultural identity threat, rather than cultural complexity, was manipulated. In Study 3, cultural complexity was manipulated to test its effects on a behavioral outcome in another cultural context.

Chapter IV: Study 3: Message Selection

Given that Study 2 was an experimental design focusing on an attitudinal outcome, in Study 3, I sought to provide further evidence for the influence of cultural complexity through three means. Methodologically, Study 3 employed an experimental design in which the level of cultural complexity was directly manipulated. In so doing, a causal relationship between cultural complexity and the outcome variables could be established with more confidence. Measurement-wise, Study 3 extended Study 2 by examining the impact of cultural complexity on a behavioral dependent variable. Finally, because Chinese participants in Study 1 were international students who were conceptually incomparable to U.S. domestic students participating in Study 2, Study 3 recruited Chinese college students in China to bolster the external validity of cultural complexity.

I theorized that people with high cultural complexity, when facing a situation where their ingroup's interests is at stake, would display a balanced way to approach the situation by seeking out information on both sides of the issue (i.e., considering opinions both in favor of and against one's ingroup) rather than absorbing messages that selectively tout the merits of one side. This is because cultural complexity may foster an open attitude towards understanding the strengths and weaknesses of one's culture. In addition, self-verification theory suggests that people prefer a social context that is in line with their self-views (Swann & Read, 1981); hence, individuals may also tend to navigate the information in their environment in ways consistent with their views on their culture. Lastly, to the extent that cultural complexity represents a reflection on one's culture that is motivated partially by a need for cognition, people high on cultural complexity would be more likely to engage in an effortful, systematic way of information processing, one that requires weighing both the pros and cons (Petty & Wegener, 1999).

To test these assumptions, participants in Study 3 were asked to read an article that explicitly delineated good and bad influences of one's cultural tradition (experimental condition to induce cultural complexity) or an article that talked about the geography of one's nation (control condition). They then completed our measure of cultural complexity (i.e., the SCNQ) and chose from a list of news headlines that showcased either opinions supporting or against their the ingroup on a controversial topic. First, I anticipated that participants in the experimental condition with balanced information about their ingroup culture would have higher levels of cultural complexity than those in the control condition. Second, participants in the experimental condition would choose more balanced news headlines (i.e., a mix of headlines supporting and opposed to their ingroup) than those in the control condition. Third, individual differences in cultural complexity (as measured by the SCNQ) would be positively correlated with selecting more balanced news headlines.

Method

Participants and Design

A sample of 334 Chinese college students studying in a university in Southwest China were recruited for this study. There were 19 students who opted not to take part in the study, 11 participants who provided invalid responses to SCNQ, and 111 participants who dropped out after completing SCNQ, resulting in a final sample consisting of 193 participants: 117 identified as female (60.6%), 73 male (37.8%), and 3 other (1.6%); average age = 19.38 years, *SD* = 1.44.

Professors in the university invited students who took a computer class to spend the first 15 minutes of class time to complete the survey online. Professors explicitly underscored the voluntary nature of participation and ensured anonymity for students. Participants were randomly assigned to either the experimental or control conditions, followed by a writing

exercise and the SCNQ. They were then exposed to two kinds of news headlines (pro-ingroup and anti-ingroup), with each kind containing six headlines, resulting in a total of 12 news headlines. Selective exposure to these 12 news headlines serves as the dependent variable. In particular, participants were first told that the session consisted of three different studies put together for administrative convenience. The alleged purpose of the first study was to examine college students' reading comprehension. Participants in the cultural complexity (experimental) condition read an article discussing one positive and one negative influences of Confucianism on Chinese society. Specifically, the positive feature chosen was Confucian ethics, where the article elaborated on how the virtues extoled by Confucianism can still serve as a valuable guide today. On the other hand, the negative feature focused on the ways in which interpersonal hierarchy emphasized in Confucianism hampers individuality and creativity. For participants in the control condition, they read an article introducing the geography of China (e.g., China has great physical diversity. The east and south of the country consists of fertile lowlands and foothills, and is the location of most of China's agricultural output and human population; see Appendix M). All participants were required to complete a short writing exercise to summarize what they learned from the article they read, which in reality served as a manipulation check as well as a way to strengthen the effect of manipulation.

Next, participants were told that the second study was about introducing Chinese cultural norms to a foreigner who knows nothing about China. Participants then completed SCNQ.

The third study was presented as a visual design study to examine people's browsing patterns of a beta version of an online magazine (a procedure modified from Knobloch-Westerwick & Meng, 2009, and Sawicki et al., 2013). Specifically, participants were shown an experimental Internet news magazine created to look like those available on the World Wide

Web (Figure 2). A part of the magazine contained 12 news headlines (ranging from 19 to 25 words in Chinese, see Appendix L) pertaining to a territorial dispute in the South China Sea. All headlines clearly indicated the stance taken on the claim that China has sovereignty over the South China Sea, which can be easily be classified into one of the two camps: six arguments in favor of China's claim (pro-China) and the remaining six arguments against China's claim (anti-China). Examples of headlines were: "The reason why China owns the South China Sea: Historical review and pragmatic considerations (pro-China)" and "Does China own South China Sea? Historical analysis undermines the credibility of China's claim (anti-China)." Participants' clicking on each headline was recorded unobtrusively by the system.

Participants were asked to check off the news headlines they were interested in reading. During this process, participants did not know whether or not they will have to read the chosen articles in their entirety later. In other words, participants chose the headlines without any explicit instruction as to whether they would be provided with the reading content associated with the news headlines or not (modeled after Sawicki et al., 2013). Moreover, a time limit of one minute was be imposed. This was meant to create a sense of time pressure, as time pressure was likely to induce need for closure, which would in turn heighten the inclination of attitude-congruent information exposure (Chiu, Morris, Hong, & Menon, 2000; Smith, Fabrigar, Powell, & Estrada, 2007). Participants were instructed as follows:

"You will see a test version of an online magazine. Please first browse through to gain an impression of the content of the website, and then check off the news headlines that interest you, just as you normally would. Please select <u>at least one</u> news headline. However, please <u>do NOT click on all</u> the news headlines. Select only those that interest you. Most people need 3 minutes to do it, but you only have 1 minute. Try to do it fast. We will remind you every 15 seconds.

After the scheduled browsing time is over, a questionnaire will upload automatically so you can evaluate the magazine."

Additionally, two variables were included as control variables, as past research has documented their effects on attitude-congruent information seeking. The first was frequency of news use (Knobloch-Westerwick & Meng, 2009), and the other was knowledge about a given topic (Chiu et al., 2000; Sawicki et al., 2013).

Measures

Manipulation check. First, I reviewed the written responses to ensure that the content was relevant to the article participants read. Second, participants reported the extent to which they paid attention to the articles on a 5-point Likert scale with 1 being *Not at all* to 5 being *Completely*. Third, participants indicated how well they understood the articles and were also asked to guess the purpose of the study at the end. Finally, I compared the mean cultural complexity scores in the two conditions.

Cultural complexity. The SCNQ was employed to assess cultural complexity.

Balanced exposure to information. The index of balanced exposure was created. First, I calculated the absolute difference between the number of anti-China headline choices and the number of pro-China headline choices, divided by the total number of chosen headlines (modified from Sawicki et al., 2013, Study 1). The resultant value ranged from 0 (the same number of anti- and pro-China headlines were chosen) to 1 (only anti- or pro-China headlines were chosen). To make the index more intuitively comprehensible, I deducted the value from 1, so the closer the value is to 1, the more balanced the perspective one adopts on the issue. For example, a participant who chose one pro-China and three anti-China new headlines would obtain the value of .50 (1 - |1-3| / 4 = .5); one pro-China and zero anti-China news headlines

would have a value of 0 (1 - |1-0| / 1 = 0).

News use. Because habitual news use has been shown to be a strong predictor of preference for attitude-consistent messages and avoidance of counter-attitudinal articles (Knobloch-Westerwick & Meng, 2009), this variable was included as a control variable. Participants rated their news use frequency for online news, daily newspaper, TV news, political Web sites, and talk or comedy shows about news and politics on a 6-point scale, with *every day, several times a week, once a week, several times a month, once a month,* and *less often* as response options. These five items were condensed into an index for habitual news use (Knobloch-Westerwick & Meng, 2009). The Cronbach's alpha was .63.

Knowledge of the topic. Participants indicated the extent to which they "know about the sovereignty dispute over the South China Sea" using a 7-point Likert type scale (1 = *Not at all*, 7 = *Very much*).

Results

A power analysis on linear multiple regression using G*Power 3.1.3 (Faul et al., 2009) revealed that a sample size of 77 participants was sufficient to detect a medium effect size (f^2= .15), assuming power = 0.80 and α = .05. Hence, the sample size of this study rendered adequate power.

I tested whether participants' demographics differed in balanced exposure to information. The result of *t* tests identified no significant differences between genders in the dependent variable, neither did age and socioeconomic status correlate with balanced exposure to information. Little's missing completely at random test suggested that data were missing completely at random, $\chi^2(8) = 6.52$, $p = .59$. Missing data for main variables (5.7% for cultural complexity and 1% for knowledge of the topic) were imputed using the EM algorithm.

Main Analyses

My first hypothesis that the experimental manipulation would induce greater levels of cultural complexity was not supported, $t(191) = .30$, $p = .78$. That is, experimental and control conditions had comparable levels of cultural complexity. To ensure that the lack of manipulation effect was not due to participants' inattention to the article and their inability to understand the concepts, I reran a *t*-test with the inclusion criteria that participants had to report at least a 3 (out of 5 points) on the two items on attention paid to and levels of comprehension of the articles. The decision of adopting at least a 3 on a 5-point scale self-reported validity check item was suggested by Wang, Wong, Yeh, and Wang (2018). Data from 57 participants were dropped as a result, although the result of the experimental manipulation was still insignificant, $t(134) = .45$, $p = .66$.

Before testing the second and third hypotheses, I examined if assumptions of multiple regression were held for the data. Visual inspection of the outcome variable revealed that the data was highly positively skewed, skewness = 1.42. Shapiro-Wilk test also indicated a departure from normality, $p < .01$. Furthermore, the skewness (1.29) of the residual score suggested a significant violation of normal distribution. For these reasons, I abandoned the proposed hierarchical multiple regression and reformulated another dependent variable to capture information processing pattern.

A closer look on the dependent variable showed that the vast majority of participants in Study 3 demonstrated a biased information preference pattern where 143 (74.1%) people had a value of 0 (recall that the lower value reflected a more biased way of selecting the news headlines). Of these individuals, 119 (83.2%) chose one or more pro-ingroup headlines, whereas only 24 (16.8%) chose one or more anti-ingroup headlines. Two conclusions can be made based

on the finding. First, considering opinions from both sides of an argument concerning ingroup is a cognitively taxing task that people are less likely to engage in. Second, there clearly existed a strong preference to receive information consistent with the interest of one's ingroup. As such, I transformed the variable into a binary one. The first category comprised of individuals who displayed a balanced way of information processing style where at least one news headline in *both* pro-ingroup *and* anti-ingroup was chosen (coded as 1). The second category referred to individuals who navigated information in a biased way by exposing themselves to *either* pro-ingroup *or* anti-ingroup news headlines (coded as 0).

Using this outcome variable, I performed a hierarchical logistic regression with two steps to address the second and third hypotheses. News use and knowledge of the topic were entered in the first step as control variables. In the second step, experimental condition (0 = control, 1 = experimental) and individual differences in cultural complexity were added. The outcome variable was the binary variable of balanced exposure to news headlines (0 = biased, 1 = balanced). Since there was no difference in cultural complexity between control and experimental conditions whether or not the inclusion criteria were applied, all valid data was included in the analysis (N = 193). I created 5,000 bootstrap samples using random sampling with replacement and reported robust estimates accordingly. Descriptive statistics for the variables used in the regression model is presented in Table 5, and the results of logistic regression based on the bootstrap samples in Table 6.

In Step 1, the regression model was not significant, $\chi^2(2, N = 193) = 1.73$, $p = .42$. Neither news use nor knowledge about the topic predicted pattern of news headline selection. In Step 2, the entire model remained insignificant $\chi^2(4, N = 193) = 6.55$, $p = .16$, Nagelkerke $R^2 = .05$, but the step approached significance, $\chi^2(2, N = 193) = 4.82$, $p = .09$. This final model

correctly classified 76.2% of participants (100% of those who exhibited biased information seeking and 8% of those who displayed balanced information seeking). The results showed that only the main effect of cultural complexity was significant, $B = .48$, OR = 1.61, $p < .05$. As reflected in Table 6, the odds ratio indicated that the likelihood of individuals considering processing both pro-ingroup and anti-ingroup information increased by .61, or 61%, for every one unit increase in cultural complexity. Stated differently, participants were .61 times as likely to demonstrate balanced exposure to information as scores related to cultural complexity increased by one. In sum, these findings support the third, but not the second, hypothesis.

Discussion

Study 3's findings generally corroborated the hypothesis that in the face of one's ingroup's interest being jeopardized, people with high cultural complexity are more willing to look at both sides of an issue, whereas those with low cultural complexity are inclined to selective information seeking, predominantly messages in line with ingroup's interest. Counter to my predictions and past literature, the manipulation of information about their ingroup culture did not influence levels of cultural complexity and the likelihood of selecting balanced information. Furthermore, Study 3 revealed that there was a substantial inclination of biased information seeking, defined as exposing only to information that touts the benefits of either the pro or con side of the controversy. In fact, this tendency was so strong that my initially formulated index to capture patterns of exposure to information was changed from a continuous variable to a categorical one. Considering the strength of biased information seeking, the fact that cultural complexity emerged as a significant predictor of a balanced pattern in navigating information seems to attest to its practical importance.

To sum up, although the manipulation unexpectedly failed and the outcome variable was

reconceptualized as dichotomous, this study, at the very least, provided further evidence of the validity of cultural complexity by adopting a behavioral outcome measure t high in ecological validity and using a different sample.

Chapter V: General Discussion

Past research on cultural norms has focused mainly on people's responses to a set of predetermined scale items. The present research expands the horizon of the social norm approach to cultural psychological research in two major ways. First, I call attention to the construct of cultural complexity (as measured by the standard deviation score of the SCNQ—that is, individuals with high cultural complexity construe their culture from a balanced point of view that consists of both positive and negative evaluations. Second, I adopt the subjective approach to assessing cultural complexity—individuals report the norms that they believe are widespread in their culture. Across three studies with samples of two nationals from different contexts, I elucidated the nature of cultural complexity and demonstrated the role it plays in determining attitudes and behavior in the process of intercultural contacts.

Findings from Study 1 documented that certain cognitive styles (dialecticism, need for cognition, and need for closure) and the personality trait of openness to experience were positively correlated with cultural complexity, which was, in turn, associated with qualities that have been found to contribute to positive intercultural contact outcomes, including cultural humility (Caligiuri, Baytalskaya, & Lazarova, 2016), decreased cultural superiority (Klak & Martin, 2003), less entitative thinking about culture (Haslam, Bastian, Bain, & Kashima, 2006), and increased interactions with racial/ethnic outgroups (Zagefka et al., 2017). Upon a closer look, the theorized antecedents of cultural complexity seem to converge on the theme of a preference for intellectual pursuit and comfort in ambiguity, which are antithetical to need for closure. Indeed, Webster and Kruglanski (1994) discussed need for closure as a latent variable that takes the form of preference for predictability, desire for order, averse of ambiguity, close-mindedness, and decisiveness. This particular epistemic constellation not only prompts

individuals to resort to categorical thinking, but also undermines their ability to recognize heterogeneity (Brauer & Er-Rafiy, 2011). As theorized earlier, cultural complexity requires effortful cognitive processing and a sophisticated cognitive representation of culture (not a wholesale good or bad), so it is not surprising that the data supported the proposed individual difference variables as antecedents.

Somewhat unexpectedly, the nomological network showed that the findings for the mediation models were different for U.S. and Chinese college students. Among the 16 mediation models, cultural complexity was a significant mediator in 13 models for Chinese participants but none for U.S. participants. Perhaps the theorized effect of cultural complexity is more evident when culture becomes a salient construct. In Study 1, all Chinese participants were international students, so there may exist a unique situational factor that differentiated them from U.S. domestic participants. Research has shown that international students' heritage cultural identity is more likely to be brought to mind because of their sojourn in a foreign cultural environment where they are confronted with numerous aspects of culture shock (Kashima & Loh, 2006; Sussman, 2002). In addition, their minority status makes them distinctive, drawing attention to their cultural identity and thus contributing to the dominant role that culture plays in their mind (Roccas & Brewer, 2002). As such, this situational factor is likely to increase international students' current accessibility of culture, rendering cultural complexity a meaningful construct (see also Aquino, Freeman, Reed, Lim, & Felps, 2009).

Following this line of reasoning, Study 2 made salient U.S. participants' cultural identity by presenting an imagined outgroup of Chinese individuals. Against this backdrop, the effect of cultural complexity was also observed for U.S. Americans, providing evidence that cultural complexity may facilitate cultural psychological processes during intergroup contact only when

culture becomes cognitively accessible to individuals. Although cultural complexity did not interact with identity threats, the significant main effects of cultural complexity on how one appraises a typical outgroup member and how warm one feels toward an outgroup further attest to the findings from Study 1 that cultural complexity benefits cross-group friendship through positive attitudes toward outgroup members. Past research has proposed the bidirectional relationship between prejudices (both implicit and explicit) and intergroup contact (Aberson, Shoemaker, & Tomolillo, 2004; Pettigrew & Tropp, 2006). In this study, I highlighted the idea that, besides people's attitudes toward outgroups, the way they think about their own culture also plays a role in determining their interactions with outgroup members.

Finally, Study 3 revealed that cultural complexity positively predicted a behavioral outcome on balanced information processing. In the context where their ingroup's interest was at stake, Chinese participants demonstrated a strong preference for messages that favor their ingroup. According to social identity theory (Tajfel & Turner, 1979), humans interact with each other on a spectrum with one end being purely interpersonal and the other extreme being purely intergroup. As people move closer to the intergroup end of the spectrum, idiosyncratic qualities are obscured by the salience of their group memberships. As a result, individuals become exchangeable with their groups, which then activates a different level of self-concept (Hornsey, 2008). Moreover, because of the need to maintain a positive self-concept, individuals are also motivated to evaluate their groups positively when comparing with other groups. Driven by this motivated cognition, Chinese nationals in this study may thus be inclined to receive information that helped them defend the ingroup, or their collective self-esteem. I demonstrated that cultural complexity was able to counter this mindset, enhancing the possibility that a participant chose both pro- and anti-ingroup information.

It is puzzling that the experimental manipulation of cultural complexity in Study 3 did not turn out to be effective. Perhaps there was a misfit between the level of experimental manipulation (a written article) and the measurement of cultural complexity. More specifically, the manipulation focused explicitly on developing a comprehensive argument on a good and a bad aspect of participants' culture. In contrast, cultural complexity was measured indirectly in this study through the use of variability in response to the SCNQ. Hence, the article was directed at a propositional mode of information processing, leaving intact people's implicit expression of cultural complexity (Gawronski & Strack, 2004). Another possible reason is that cultural complexity may possess trait-like attributes that make it less susceptible to brief manipulations like the one used in this study. Inspired by the research on bicultural identity integration (the degree to which two cultural identities is integrated by bicultural individuals; Benet-Martinez, Leu, Lee, & Morris, 2002; Mok & Morris, 2012), I further conjectured that cultural complexity may also be better understood as a relatively enduring disposition from which there is some degree of deviation.

Strengths of the Study

This project contributes to the cultural and counseling psychology literature in several ways. First, it introduces a new cultural construct of cultural complexity and provides empirical evidence to document its nomological network and the condition under which it becomes relevant. The findings not only confirmed the utility and distinctiveness of cultural complexity, but also supported the conceptualization of cultural complexity as a desirable attribute that yields several benefits conducive to positive group processes, both at the intragroup level (e.g., a humble representation of one's ingroup and a balanced information selection pattern) and the intergroup level (e.g., reduced outgroup derogation when group identity was threatened).

Second, I deployed a unique method to capture individual differences in cultural complexity that is characterized as subjective and implicit without resorting to traditional implicit measures, such as the implicit association test (Greenwald, McGhee, & Schwartz, 1998). The methodological advantages of allowing participants to describe their own cultural norms and using the standard deviation of endorsement scores as the index of cultural complexity obscure the intention of the measure. Therefore, compared to self-reported responses to cultural complexity, I argue that the standard deviation approach with the SCNQ would be more insensitive to social desirability threat.

Third, this research includes diverse methodologies (research designs, outcome measures) and samples (Chinese participants as sojourners in the U.S. and as domestic students in China, as well as U.S. college students) to support the validity of cultural complexity. Although my hypotheses were only partially supported across three studies, evidence from different research designs, outcomes, and samples converged, giving more credence to the conclusions made regarding the salutary effects of cultural complexity,

Fourth, my findings on cultural complexity bridge and expand two lines of literature: the social norm approach to culture (Morris et al., 2015) and the rich body of research on intergroup contact. For instance, the *Journal of Cross-Cultural Psychology* has devoted a special issue to integrate recent theories and research on social norms and intersubjective representations, with the foci on the cultural norm transmission process and psychological functions of norms (Lonner, Zou, & Leung; 2015). What appears to be lacking in this discussion is the implications of cultural norms on intergroup/intercultural processes. This research draws attention to how a specific configuration of cultural norms and personal beliefs (characterized by both high agreement and disagreement) affects intergroup dynamics in the attitudinal and behavioral facets.

Limitations and Future Research Directions

There are some notable limitations of the present set of studies. First, a convincing case regarding the causality between the variables in the present studies cannot be built because of the cross-sectional, correlational designs and the failure to manipulate cultural complexity. Although the data for the most part are consistent with my theoretical model and predictions (i.e., the nomological network of cultural complexity, the benefits of cultural complexity on reducing prejudice and biased information processing), there are other theoretical models that may also explain the data well, including one that would suggest that cultural complexity and all the dependent variables concerning intergroup processes might be affected by dialectical thinking (Spencer-Rodgers, Williams, & Peng, 2012). I therefore encourage future researchers to directly investigate the causal impact of cultural complexity by using longitudinal and experimental designs. One possible alternative to manipulate cultural complexity may be focusing on its antecedents as a way to impact cultural complexity. For example, Miller, Brewer, and Arbuckle, (2009) manipulated social identity complexity by increasing or decreasing people's need for elaboration, an antecedent of the construct of interest. Similarly, Mok and Morris (2012) changed biculturals' cognitive processing style to affect their degree of bicultural identity integration. Future studies can explore if well-established procedures of manipulating dialectical thinking, a proposed precursor to cultural complexity, would be an effective way to influence cultural complexity.

Second, based on the differences in findings for the Chinese and U.S. samples in Study 1, I theorized that the effects of cultural complexity might be most prominent when culture becomes cognitively accessible. Although cultural saliency was presumably high in Studies 2 and 3, we did not directly assess cultural saliency. Instead, it was inferred from past research and

theories on group and intergroup processes. The interaction assumption between cultural complexity and cognitive accessibility needs to be addressed clearly to understand fully how cultural complexity works.

The third limitation is related to the ongoing discussion on moderators of cultural complexity. Although I demonstrated that cultural complexity reduced biases for both U.S. and Chinese nationals when their ingroup was threatened, my sample was not sufficiently diverse to test if cultural complexity exerts the same influences for other racial groups (e.g., African Americans), especially in a society where these groups are marginalized to different degrees and vary widely on their perceived warmth and competence (Fiske, Cuddy, Glick, & Xu, 2002). It is conceivable that high cultural complexity could lead to cultural humility for racial majority groups but not so much for racial minorities because of experiences of discrimination.

Finally, as implied in the previous point, the two characteristics of cultural complexity, namely, variability and subjectivity, could be applied to the study of other social identities in psychology. An interesting line of research could be the parallel constructs of cultural complexity in the psychology of men and women, such as "men/women identity complexity," where an individual is able to notice both positive and negative aspects of his/her gender membership.

Practical Implications

The findings of the present set of studies have several implications for therapy training programs and therapy practice. First, when training therapists to competently work with clients from various backgrounds, it may be critical to cultivate therapists' ability to reflect on their cultural identities in a balanced way. Training programs that focus on facilitating therapists' awareness as cultural beings are advised to explicitly teach therapists to explore both positive

and negative aspects of their identities. Take the Social Identity Wheel exploration activity as an example (Adams, Bell, & Griffin, 2007). This activity is commonly used to prompt therapists-in-training to engage in discussions around their social identities (e.g., race, ethnicity, gender, socioeconomic status, age) as well as their privileges and oppression. This activity can be expanded to include a structured discussion on the good and bad norms associated with each identity. Because cultural complexity necessitates the dual capacities of naming prevalent cultural norms and evaluating them, I reason that as therapists' cultural complexity increases, there will be a spillover effect on other multicultural skills. For example, therapists may be more likely to develop sensitivity to cultural differences without overemphasizing them (Stuart, 2004) due to the realization that people from a specific cultural background may not necessarily endorse all the norms in their own culture.

Moreover, it also seems important to engage clients in a journey of exploring their culture in a balanced way as well, especially for clients who tend to universally embrace or reject their culture. This mindset may subject clients to psychological consequences that prevent them from effectively participate in rewarding intercultural exchanges (Neuliep, 2012). In practice, how psychotherapists achieve this goal may bear some resemblance to cognitive behavior interventions and mindfulness-based principles—therapists could challenge dichotomous thinking (e.g., my culture is either totally good or bad) and invite clients to take a step back to reflect on the dominant norms in their culture. I surmise that this practice would increase clients' multicultural competence in an increasingly diverse society and enhance their social well-being.

Conclusion

When I ask people to tell me about their cultures, I am often intrigued by those whose cognitive representation of their cultural is characterized by the coexistence of good and bad

evaluations. However, it is striking to me that I could not locate a construct in the cultural psychology literature to match this anecdotal but common response. This research examined the nomological network of cultural complexity and how it potentially yields benefits in an intergroup context. Across three studies, I provide evidence that cultural complexity may be a beneficial psychological construct that fosters a humble attitude and openness in an intercultural context. I also show that cultural complexity mitigates not only prejudice toward outgroups, but also bias in information processing. With this line of research, it is promising that we promote a respectful climate in a multicultural society by harnessing the positive outcomes that come with a balanced perspective toward one's ingroup.

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Tables

Table 1a

Study 1: Means, Standard Deviations, Ranges, and Intercorrelations among Main Variables (N = 219)

Variable	1	2	3	4	5	6	7	8	9	10
1. Endorsement of SCNQ										
2. Cultural complexity	-.41**									
3. Dialecticism	-.17*	.39**								
4. Openness	-.02	.25**	.23**							
5. Need for cognition	-.01	.24**	.17*	.63**						
6. Need for closure	.11	-.29**	-.52**	-.41**	-.57**					
7. Cultural superiority	.24**	-.30**	-.29**	-.28**	-.45**	.49**				
8. Cultural humility	-.07	.32**	.47**	.40**	.41**	-.42**	-.22**			
9. Cultural essentialism	.22**	-.33**	-.52**	-.40**	-.40**	.53**	.59**	-.46**		
10. Intergroup contact	-.20**	.35**	.26**	.42**	.42**	-.39**	-.34**	.40**	-.41**	
M	4.97	1.23	3.85	6.60	4.61	4.40	4.03	3.18	4.49	4.17
SD	1.42	0.77	1.00	1.35	0.95	0.97	1.29	0.94	0.81	1.47
Possible Range	1-7	0-3.29	1-7	1-9	1-7	1-7	1-7	1-7	1-7	1-7

*$p < .05$. **$p < .01$.

Table 1b

Study 1: Intercorrelations among Main Variables for U.S. (Above Diagonal, n = 127) and Chinese Samples (Below Diagonal, n = 92)

Variable	1	2	3	4	5	6	7	8	9	*M*	*SD*
1. Cultural complexity	–	.25**	.04	.06	.03	-.12	.15	-.10	.15	1.18	0.73
2. Dialecticism	.51**	–	-.20*	-.26**	-.09	.10	.32**	-.05	-.09	3.62	0.75
3. Openness	.47**	.59**	–	.39**	-.04	.01	-.05	-.05	.21*	6.91	0.91
4. Need for cognition	.45**	.57**	.76**	–	-.32**	-.18*	.08	-.04	.19*	4.76	0.81
5. Need for closure	-.54**	-.77**	-.62**	-.75**	–	.00	-.03	.01	-.03	4.41	0.75
6. Cultural superiority	-.50**	-.64**	-.41**	-.63**	.82**	–	.29**	.25**	-.05	3.87	1.10
7. Cultural humility	.52**	.68**	.66**	.66**	-.70**	-.63**	–	-.12	.16	3.28	0.85
8. Cultural essentialism	-.49**	-.74**	-.58**	-.64**	.76**	.82**	-.69**	–	-.12	4.53	0.56
9. Intergroup contact	.55**	.54**	.57**	.62**	-.64**	-.58**	.62**	-.60**	–	4.20	1.33
M	1.31	4.18	6.16	4.40	4.38	4.25	3.05	4.42	4.12		
SD	0.81	1.20	1.69	1.08	1.22	1.48	1.04	1.07	1.66		

*$p < .05$. **$p < .01$.

Table 2a

Study 1: Mediation Analyses for the Effect of Cultural Complexity (M) in the Association between Proposed Antecedents (X) and Consequences (Y) (N = 219)

Outcome (Y)	Predictor (X)	Effect of X on M (a)	Effect of M on Y (b)	Direct effect (c')	Total effect (c)	Indirect effect (ab)		Completely standardized indirect effect	
						B	95% CI [LL, UL]	*B*	95% CI [LL, UL]
Cultural superiority	Dialecticism	.30**	-.36**	-.27**	-.37**	-.11	[-.20, -.04]	-.08	[-15, -.03]
	Openness	.14**	-.40**	-.21**	-.27**	-.06	[-.11, -.02]	-.06	[-.11, -.03]
	Need for cognition	.20**	-.34**	-.55**	-.61**	-.07	[-.13, -.02]	-.05	[-.09, -.02]
	Need for closure	-.23**	-.28**	.58**	.65**	.06	[.02, .13]	.05	[.01, .10]
Cultural humility	Dialecticism	.30**	.20*	.38**	.44**	.06	[.02, .11]	.06	[.02, .12]
	Openness	.14**	.29**	.24**	.28**	.04	[.02, .07]	.06	[.03, .10]
	Need for cognition	.20**	.29**	.35**	.40**	.06	[.02, .11]	.06	[.02, .11]
	Need for closure	-.23**	.27**	-.34**	-.40**	-.06	[-.11, -.03]	-.06	[-.12, -.03]
Cultural essentialism	Dialecticism	.30**	-.15*	-.37**	-.42**	-.05	[-.09, -.01]	-.06	[-.11, -.01]
	Openness	.14**	-.26**	-.20**	-.24**	-.04	[-.07, -.02]	-.06	[-.11, -.03]
	Need for cognition	.20**	-.26**	-.29**	-.35**	-.05	[-.10, -.02]	-.06	[-.11, -.02]
	Need for closure	-.23**	-.20**	.40**	.44**	.05	[.02, .09]	.05	[.02, .10]
Intergroup contact	Dialecticism	.30**	.56**	.21*	.38**	.17	[.08, .26]	.11	[.06, .18]
	Openness	.14**	.49**	.38**	.46**	.07	[.03, .13]	.06	[.03, .11]
	Need for cognition	.20**	.50**	.56**	.66**	.10	[.04, .19]	.06	[.03, .12]
	Need for closure	-.23**	.49**	-.48**	-.59**	-.11	[-.20, -.05]	-.07	[-.13, -.03]

Note: Mediation effects were all significant at $p < .05$, meaning that the 95% CIs did not include zero.

*$p < .05$. **$p < .01$.

Table 2b

Study 1: Mediation Analyses for the Effect of Cultural Complexity (M) in the Association between Proposed Antecedents (X) and Consequences (Y) (U.S. Sample, n = 127)

Outcome (Y)	Predictor (X)	Effect of X on M (a)	Effect of M on Y (b)	Direct effect (c')	Total effect (c)	Indirect effect (ab)		Completely standardized indirect effect	
						B	95% CI [LL, UL]	*B*	95% CI [LL, UL]
Cultural superiority	Dialecticism	.24**	-.23	.20	.14	-.05	[-.18, .01]	-.04	[-.12, .01]
	Openness	.03	-.18	.02	.02	-.01	[-.07, .02]	-.01	[-.06, .02]
	Need for cognition	.05	-.16	-.24*	-.25*	-.01	[-.09, .02]	-.01	[-.06, .01]
	Need for closure	.03	-.18	.01	.00	-.01	[-.08, .03]	-.00	[-.05, .02]
Cultural humility	Dialecticism	.24**	.09	.34**	.36**	.02	[-.02, .09]	.02	[-.02, .08]
	Openness	.03	.18	-.05	-.04	.01	[-.02, .06]	.01	[-.02, .06]
	Need for cognition	.05	.17	.07	.08	.01	[-.01, .08]	.01	[-.01, .07]
	Need for closure	.03	.18	-.04	-.04	.01	[-.03, .05]	.00	[-.03, .05]
Cultural essentialism	Dialecticism	.24**	-.07	-.01	-.03	-.05	[-.16, .10]	-.02	[-.07, .01]
	Openness	.03	-.08	-.03	-.03	-.00	[-.03, .01]	-.00	[-.05, .01]
	Need for cognition	.05	-.08	-.02	-.03	-.00	[-.04, .01]	-.01	[-.06, .01]
	Need for closure	.03	-.08	.01	.00	-.00	[-.04, .01]	-.00	[-.05, .02]
Intergroup contact	Dialecticism	.24**	.34*	-.24	-.16	.08	[.00, .22]	.05	[.00, .12]
	Openness	.03	.26	.29*	.30*	.01	[-.03, .09]	.01	[-.02, .06]
	Need for cognition	.05	.26	.30*	.32*	.01	[-.02, .11]	.01	[-.01, .06]
	Need for closure	.03	.28	-.06	-.05	.01	[-.05, .10]	.00	[-.03, .05]

Note: Mediation effects were all significant at $p < .05$, meaning that the 95% CIs did not include zero.

*$p < .05$. **$p < .01$.

Table 2c

Study 1: Mediation Analyses for the Effect of Cultural Complexity (M) in the Association between Proposed Antecedents (X) and Consequences (Y) (Chinese Sample, n = 92)

Outcome (Y)	Predictor (X)	Effect of X on M (a)	Effect of M on Y (b)	Direct effect (c')	Total effect (c)	Indirect effect (ab)		Completely standardized indirect effect	
						B	95% CI [LL, UL]	*B*	95% CI [LL, UL]
Cultural superiority	Dialecticism	.34**	-.42*	-.65**	-.79**	-.14	[-.28, -.04]	-.12	[-.22, -.03]
	Openness	.22**	-.72**	-.19*	-.36**	-.16	[-.27, -.08]	-.18	[-.30, -.10]
	Need for cognition	.34**	-.48**	-.70**	-.87**	-.16	[-.31, -.06]	-.12	[-.22, -.04]
	Need for closure	-.36**	-.13	.95**	.99**	.05	[-.06, .17]	.04	[-.05, .14]
Cultural humility	Dialecticism	.34**	.31**	.48**	.59**	.11	[.02, .19]	.12	[.03, .23]
	Openness	.22**	.35**	.33**	.41**	.08	[.02, .15]	.13	[.04, .24]
	Need for cognition	.34**	.36**	.52**	.64**	.12	[.04, .24]	.13	[.04, .24]
	Need for closure	-.36**	.25*	-.51**	-.60**	-.09	[-.19, -.01]	-.11	[-.22, -.01]
Cultural essentialism	Dialecticism	.34**	-.20	-.60**	-.66**	-.07	[-.16, .00]	-.08	[-.18, .00]
	Openness	.22**	-.36**	-.29**	-.37**	-.08	[-.15, -.02]	-.13	[-.23, -.04]
	Need for cognition	.34**	-.33**	-.52**	-.64**	-.11	[-.22, -.03]	-.11	[-.21, -.03]
	Need for closure	-.36**	-.13	.62**	.67**	.05	[-.05, .13]	.05	[-.05, .15]
Intergroup contact	Dialecticism	.34**	.76**	.48**	.74**	.26	[.11, .45]	.19	[.08, .33]
	Openness	.22**	.74**	.39**	.56**	.16	[.07, .30]	.17	[.07, .30]
	Need for cognition	.34**	.69**	.71**	.95**	.24	[.10, .43]	.15	[.06, .28]
	Need for closure	-.36**	.56**	-.66**	-.87**	-.21	[-.37, -.05]	-.15	[-.27, -.04]

Note: Mediation effects were all significant at $p < .05$, meaning that the 95% CIs did not include zero.

*$p < .05$. **$p < .01$.

Table 3

Study 2: Means, Standard Deviations, Ranges, and Intercorrelations among Main Variables (N = 211)

Variable	1	2	3	4	5
1. US cultural identity					
2. Cultural complexity	-.28**				
3. Feeling towards ingroup	.44**	-.03			
4. Feeling towards outgroup	-.04	.22**	.13^{+}		
5. Cognitive evaluation of outgroup	-.14^{+}	.23**	-.08	.52**	
M	4.97	1.24	72.20	64.83	6.48
SD	1.44	0.83	18.13	19.52	2.17
Possible Range	1-7	0-3.29	0-100	0-100	0-10

$^{+}p = .053$. $*p < .05$. $**p < .01$.

Table 4

Study 2: Multiple Regression Models Predicting Intergroup Biases

Variable	*B*	*SE*	*β*	R^2	ΔR^2	*p*
			Outcome: Feelings towards ingroup			
Step 1				.21		<.001
Age	-0.34	0.20	-.11			.09
SES	-0.87	0.67	-.08			.19
US cultural identity	5.22	0.80	.41			<.001
Step 2				.23	.01	<.001, .17
Condition	1.61	2.25	.04			.48
Cultural complexity	2.47	1.42	.11			.08
Step 3				.23	.00	<.001, .54
Condition × cultural complexity	1.70	2.80	.06			.54
			Outcome: Feelings towards outgroup			
Step 1				.00		.82
Age	-0.02	0.24	-.01			.93
SES	0.63	0.81	.06			.44
US cultural identity	-0.39	0.96	-.03			.68
Step 2				.07	.06	.02, <.001
Condition	-4.52	2.66	-.12			.09
Cultural complexity	5.42	1.68	.23			<.001
Step 3				.07	.00	.03, .55
Condition × cultural complexity	1.94	3.28	.06			.55
			Outcome: Cognitive evaluation of outgroup			
Step 1				.04		.04
Age	0.05	0.03	.14			.04
SES	-0.04	0.09	-.03			.69
US cultural identity	-0.20	0.11	-.13			.07
Step 2				.14	.11	<.001, <.001
Condition	-1.12	0.28	-.26			<.001
Cultural complexity	0.57	0.18	.22			<.001
Step 3				.14	.00	<.001, .96
Condition × cultural complexity	0.02	0.35	.00			.96

Note. If two *p* values are presented, they indicate *p* values for R^2 and ΔR^2, respectively.

Table 5

Study 3: Descriptive Statistics for Variables in Logistic Regression (N = 193)

Information processing	Total sample (*n*)	News use		Knowledge		Experimental conditions		Cultural complexity	
		M	SD	M	SD	Ctrl (*n)*	Exp (*n)*	M	SD
Biased	143	2.83	0.08	4.51	0.10	74	69	0.59	0.05
Balanced	50	2.75	0.14	4.23	0.21	24	26	0.87	0.13
Summary	193	2.81	0.96	4.43	1.26	98	95	0.66	0.75

Note. Ctrl = control condition. Exp = cultural complexity condition.

Table 6

Study 3: Summary of Logistic Regression Analysis for the Prediction of Balanced Information Processing (N = 193)

Variable	*B*	*SE B*	OR	95% CI [LL, UL]	*p*
Step 1					
News use	-0.02	0.19	0.98	[-.41, .33]	.91
Knowledge about the topic	-0.17	0.17	0.85	[-.51, .14]	.23
Step 2					
Experimental conditions	0.14	0.35	1.15	[-.55, .82]	.68
Cultural complexity	0.48	0.23	1.61	[.03, .92]	.03

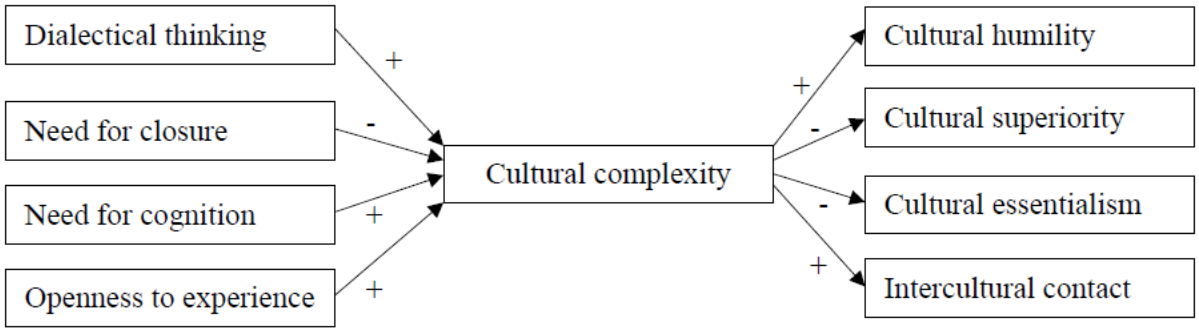


Figure 1. A mediation model of cultural complexity. + and – denote positive and negative associations with cultural complexity, respectively.

Figure 2. The online magazine website used in Study 3.

Appendices

Appendix A

The Subjective Cultural Norms Questionnaire

The following statements are about social norms concerning *American* [Chinese] culture. These social norms include societal customs and expectations about what members in *American* [Chinese] culture should or should not do. We're interested in your understanding of the most important social norms concerning members in *American* [Chinese] culture. The focus of these statements is on what most people believe; you may or may not personally endorse these social norms. Please describe these social norms by completing the following sentences. Do NOT include expectations that are required by law (e.g., the law stipulating citizens to pay taxes in *America* [China]; the law forbidding stealing in *America* [China]).

Social Norm 1: In *American* [Chinese] culture, most people believe that individuals should _____

Social Norm 2: In *American* [Chinese] culture, most people believe that individuals should _____

Social Norm 3: In *American* [Chinese] culture, most people believe that individuals should _____

Social Norm 4: In *American* [Chinese] culture, most people believe that individuals should NOT _____

Social Norm 5: In *American* [Chinese] culture, most people believe that individuals should NOT _____

Social Norm 6: In *American* [Chinese] culture, most people believe that individuals should NOT _____

Indicate the extent to which you personally endorse or agree with each of the social norms you've just described concerning members in *American* [Chinese] culture. For example, if you wrote that people believe members in *American* [Chinese] culture should eat vegetables, indicate the extent to which you agree that members in *American* [Chinese] culture should eat vegetables.

Social Norm 1:

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

Social Norm 2:

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

Social Norm 3:

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

Social Norm 4:

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

Social Norm 5:

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

Social Norm 6:

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

Appendix B

The Brief Dialectical Self Scale

Listed below are a number of statements about your thoughts, feelings, and behaviors. Select the number that best matches your agreement or disagreement with each statement. Use the following scale, which ranges from 1 (strongly disagree) to 7 (strongly agree). There are no right or wrong answers.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

1. I am the same around my family as I am around my friends.*
2. When I hear two sides of an argument, I often agree with both.
3. I often change the way I am, depending on who I am with.
4. I often find that things will contradict each other.
5. If I've made up my mind about something, I stick to it.*
6. I have a definite set of beliefs, which guide my behavior at all times.*
7. I have a strong sense of who I am and don't change my views when others disagree with me.*
8. The way I behave usually has more to do with immediate circumstances than with my personal preferences.
9. My outward behaviors reflect my true thoughts and feelings.*
10. I sometimes believe two things that contradict each other.
11. I often find that my beliefs and attitudes will change under different contexts.
12. My world is full of contradictions that cannot be resolved.
13. I am constantly changing and am different from one time to the next.
14. I usually behave according to my principles.*

*reverse scored

Appendix C

The Revised Need for Cognition Scale

For each of the statements below, please use the following scale to indicate whether or not the statement is characteristic of you or of what you believe.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun.*
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.*
5. I try to anticipate and avoid situations where there is likely a chance I will have to think in depth about something.*
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to.*
8. I prefer to think about small, daily projects to long-term ones.*
9. I like tasks that require little thought once I've learned them.*
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems.
12. Learning new ways to think doesn't excite me very much.*
13. I prefer my life to be filled with puzzles that I must solve.
14. The notion of thinking abstractly is appealing to me.
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.*
17. It's enough for me that something gets the job done; I don't care how or why it works.*
18. I usually end up deliberating about issues even when they do not affect me personally.

*reverse scored

Appendix D

The 40-Item Mini Marker Set - Openness Subscale

How accurately can you describe yourself?
Please use this list of common human traits to describe yourself as accurately as possible.
Describe yourself as you see yourself at the present time, not as you wish to be in the future.
Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age.
Before each trait, please write a number indicating how accurately that trait describes you, using the following rating scale:

Inaccurate					Accurate			
1	2	3	4	5	6	7	8	9
Extremely	Very	Moderately	Slightly	?	Slightly	Moderately	Very	Extremely

1. Creative
2. Imaginative
3. Philosophical
4. Intellectual
5. Complex
6. Deep
7. Uncreative
8. Unintellectual

Appendix E

Brief Need for Closure Scale

Read each of the following statements and decide how much you agree with each according to your beliefs and experiences.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

1. I don't like situations that are uncertain.
2. I dislike questions which could be answered in many different ways.
3. I find that a well ordered life with regular hours suits my temperament.
4. I feel uncomfortable when I don't understand the reason why an event occurred in my life.
5. I feel irritated when one person disagrees with what everyone else in a group believes.
6. I don't like to go into a situation without knowing what I can expect from it.
7. When I have made a decision, I feel relieved.
8. When I am confronted with a problem, I'm dying to reach a solution very quickly.
9. I would quickly become impatient and irritated if I would not find a solution to a problem immediately.
10. I don't like to be with people who are capable of unexpected actions.
11. I dislike it when a person's statement could mean many different things.
12. I find that establishing a consistent routine enables me to enjoy life more.
13. I enjoy having a clear and structured mode of life.
14. I do not usually consult many different opinions before forming my own view.
15. I dislike unpredictable situations.

Appendix F

The Measure of Identification with Groups - Superiority Subscale

Use the following scale to indicate your level of agreement or disagreement with the following items.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

1. Other nations can learn a lot from us *Americans* [Chinese].
2. Compared to other nations, *America* [China] is particularly good.
3. Relative to other groups, we (*Americans*) [Chinese] are very moral.
4. *America* [China] is better than other nations in all respects.

Appendix G

The Abbreviated Specific Intellectual Humility Scale

Here are a number of statements that may or may not apply to you. For the most accurate score, when responding, think of how you compare to most people—not just the people you know well, but most people in the world. There are no right or wrong answers, so please answer honestly.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree

1. My views about *American* [Chinese] culture today may someday turn out to be wrong.
2. When it comes to my views about *American* [Chinese] culture, I may be overlooking evidence.
3. My views about *American* [Chinese] culture may change with additional evidence or information.

Appendix H

Cultural Essentialism Scale

We have collected a sample of people's ideas about 'culture' below. Sometimes, ideas about "culture" can be quite abstract. We are interested in knowing what you think about the following ideas relating to culture.

1	2	3	4	5	6	7
Strongly disagree	Moderately disagree	Slightly disagree	Neutral	Slightly agree	Moderately agree	Strongly agree

1. Culture is a central aspect of a person's personality; it defines who you are.
2. People who belong to a different culture are a distinct type of person.
3. It is easy to change somebody's culture: it is not a fixed attribute of the person.*
4. Culture has broad ramifications: it influences people's behavior in a wide variety of situations and in many aspects of their lives.
5. People will tend to follow their cultural norms and customs in a consistent manner, in different situations and with different people.
6. Culture is a deeply-rooted part of the personality: it lies deep within the person.
7. Cultural groups are just arbitrary categories.*
8. Culture is a social construct and has no real bearing on how people interact.*
9. Culture helps determine differences in people's behavior.
10. When meeting a new person it is important for me to know what culture they are from.
11. If I knew someone was from a different culture, I would mention this in describing them to someone else.
12. Culture does not have an inherent biological basis.*
13. It is hard, if not impossible, to change the basic qualities associated with a person's culture.
14. I change my behavior depending on which culture the person I am interacting with is from.
15. What a person is like (e.g., his or her abilities, traits) is deeply ingrained by their culture.

*reverse scored

Appendix I

Study 1: Mediation Analyses for the Effect of Cultural Complexity (M) in the Association between Proposed Antecedents (X) and Consequences (Y) (Controlling for Age, $N = 219$)

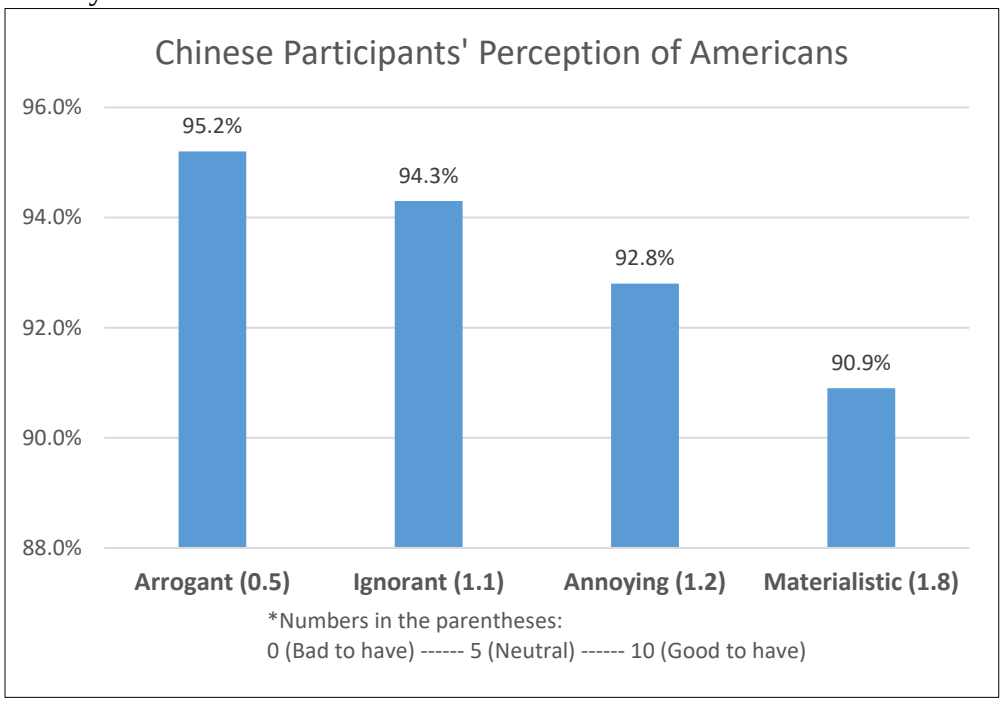
Outcome (Y)	Predictor (X)	Effect of X on M (a)	Effect of M on Y (b)	Direct effect (c')	Total effect (c)	Indirect effect (ab)		Completely standardized indirect effect	
						B	95% CI [LL, UL]	*B*	95% CI [LL, UL]
Cultural superiority	Dialecticism	.29**	-.36**	-.25**	-.35**	-.10	[-.19, -.04]	-.08	[-14, -.03]
	Openness	.17**	-.35**	-.25**	-.31**	-.06	[-.11, -.02]	-.06	[-.11, -.02]
	Need for cognition	.20**	-.30**	-.56**	-.62**	-.06	[-.12, -.02]	-.04	[-.09, -.01]
	Need for closure	-.21**	-.28**	.58**	.64**	.06	[.02, .12]	.04	[.01, .09]
Cultural humility	Dialecticism	.29**	.21**	.42**	.48**	.06	[.02, .11]	.06	[.02, .11]
	Openness	.17**	.28**	.25**	.29**	.05	[.03, .08]	.07	[.03, .12]
	Need for cognition	.20**	.30**	.34**	.40**	.06	[.02, .11]	.06	[.02, .11]
	Need for closure	-.21**	.28**	-.35**	-.41**	-.06	[-.11, -.02]	-.06	[-.11, -.02]
Cultural essentialism	Dialecticism	.29**	-.15*	-.36**	-.40**	-.04	[-.09, -.01]	-.05	[-.11, -.01]
	Openness	.17**	-.19**	-.25**	-.28**	-.03	[-.06, -.01]	-.05	[-.10, -.02]
	Need for cognition	.20**	-.22**	-.31**	-.35**	-.04	[-.08, -.02]	-.05	[-.10, -.02]
	Need for closure	-.21**	-.19**	.38**	.42**	.04	[.02, .07]	.05	[.02, .10]
Intergroup contact	Dialecticism	.29**	.56**	.23*	.39**	.16	[.08, .27]	.11	[.05, .17]
	Openness	.17**	.46**	.41**	.49**	.08	[.03, .14]	.07	[.03, .13]
	Need for cognition	.20**	.49**	.56**	.66**	.10	[.04, .19]	.06	[.03, .12]
	Need for closure	-.21**	.50**	-.49**	-.59**	-.11	[-.19, -.05]	-.07	[-.12, -.03]

Note: Mediation effects were all significant at $p < .05$, meaning that the 95% CIs did not include zero.
*$p < .05$. **$p < .01$.

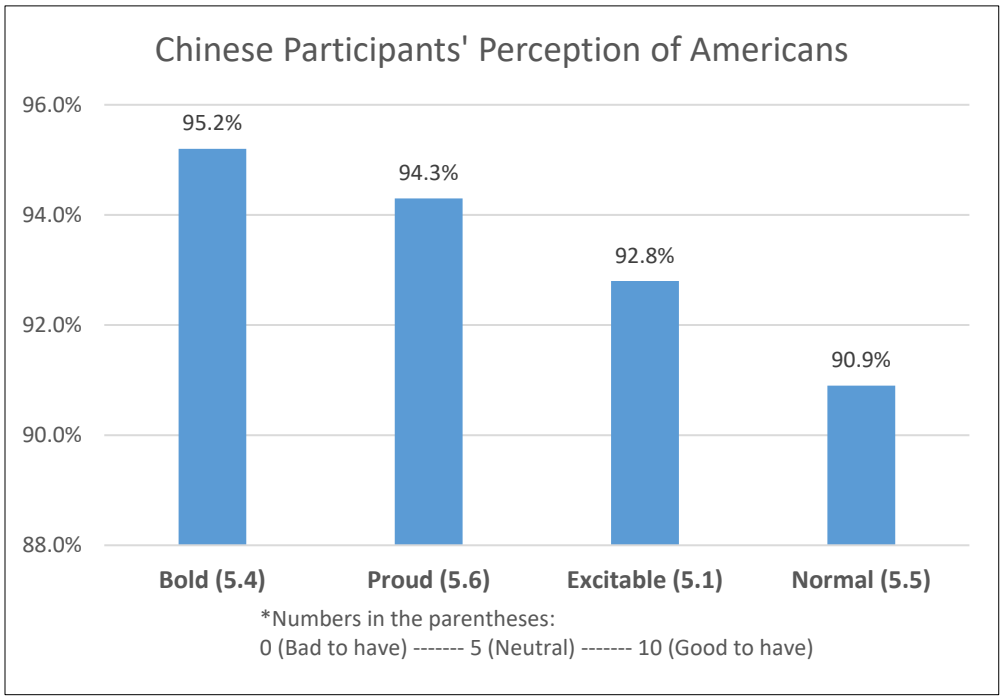
Appendix J

Histograms Used in Study 2

Identity Threat Condition:



No Threat Condition:

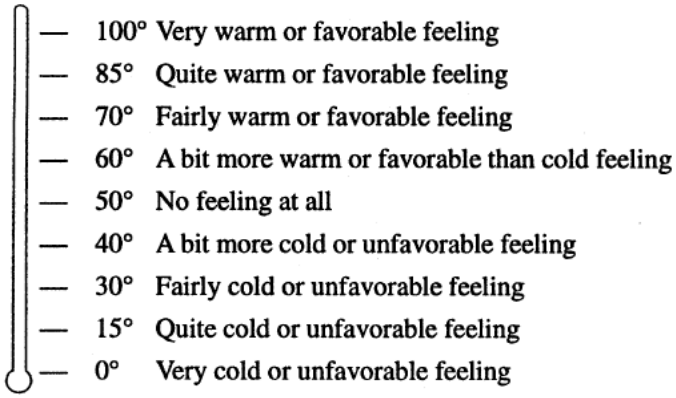


Appendix K

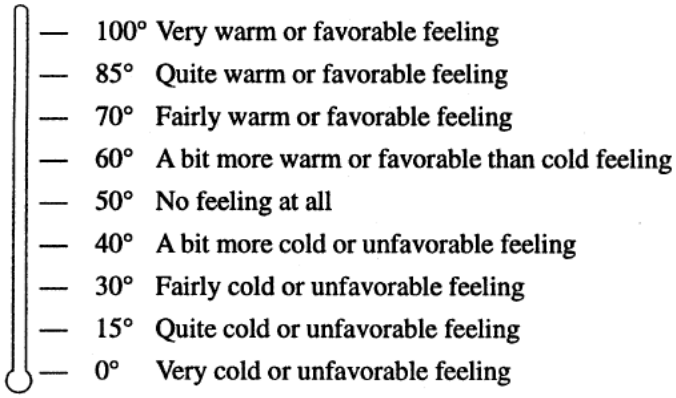
Feelings Thermometers

Below you will see something that looks like a thermometer. We would like you to use the thermometer to indicate your overall attitude towards Chinese and American, respectively. If you have a favorable attitude towards Chinese, you would give them a score somewhere between 50° and 100°, depending on how favorable you are toward them. If you have an unfavorable attitude towards Chinese, you would give them a score somewhere between 0° and 50°, depending on how unfavorable you are toward them. The degree labels will help you to locate the group on the thermometer. However, you are not restricted to the numbers indicated—feel free to use any number between 0° and 100°. Please be honest.

Chinese:



Americans:



Appendix L

News Headlines Used in Study 3

Pro-China:

中国拥有南海主权的理由：历史回顾与现实思考
The reason why China owns South China Sea: Historical review and pragmatic considerations
中国外交部指称南海争议根源於中国领土被侵占
Ministry of Foreign Affairs of PRC states that the dispute over South China Sea stems from Chinese territory being occupied
欧洲华文媒体集体发声支持中国南海问题立场
European Chinese media issues a collective statement supporting China's stance in the South China Sea dispute
芝加哥时报社论：支持中国南海统治权，否认南海仲裁
Chicago Times editorial: Supporting China's ownership claim over South China Sea, rejecting tribunal's ruling in South China Sea case
南海主权归属中国符合国际法理之规范
China's sovereignty over South China Sea is in conformity with the International Law
俄罗斯总统支持中国南海主张，反对国际干涉
President of Russia supports China's claims of South China Sea, opposing the international interference

Anti-China:

中国拥有南海主权？历史分析指出中国主张缺乏正当性
Does China own South China Sea? Historical analysis undermines the credibility of China's claim
驻外中国官员解释为何中国不应声称拥有南海主权
Overseas Chinese governor explains why China should not declare sovereignty over South China Sea
英国华人团体指出中国拒绝接受南海不利裁决「很不负责」
Chinese community in the UK states that China is "irresponsible" in rejecting the tribunal's ruling against China in South China Sea dispute
纽约时报专题：南海争议，北京说词的误区：中国何曾拥有南海？
New York Times opinion: Controversies of South China Sea, fallacies in Beijing's statement: Since when did China own South China Sea?
南海不是中国的内海：中国南海政策无法理依据
South China Sea is not China's territorial sea: China's South China Sea policies lacks legal basis
美国高层领导人反对中国南海主权，吁国际沟通
U.S. Authorities speak against China's ownership over South China Sea, calling for international dialogue

Appendix M

Articles used in Study 3

Cultural Complexity Condition:

每个文化都有其好跟坏的地方。请详读下文介绍中国文化中主流儒家思想的利与弊：

优秀之处：
儒家提出一系列道德范畴、命题、思想丰富了中国传统道德宝库。儒家文化属人伦文化，它提出的仁、义、礼、智、信、温、良、恭、俭、让、忠、孝、廉、节、耻等，蕴含量十分丰富，每个字都能写一篇大文章。如果抽象出它们的一般意义，加以选择、加工、发挥，就能成为精华。如“仁”，是儒家道德规范体系的核心，“仁者仁也”，强调了人的社会属性和本质；“仁者爱人”，反映了利他精神；“克己复礼为仁”，要求人应该有道德自律意识；“杀身成仁”，彰显了坚守信念、不怕牺牲的决心。又如“忠”，抛开它的忠君和愚忠的具体含义之外，可贵之处在于忠于职守、勇于负责，完全可以把它用在忠于国家、忠于人民方面上。此外，“义”即正直、正义，“礼”即礼貌、礼仪，“信”即诚信、信誉，“温”即和蔼、平易，“恭”即谦虚、敬人，“俭”即勤俭节约，“让”即宽容忍让，“廉”即清正廉洁，“节”即骨气、气节，“耻”即自尊自爱等，它们的一般意义都可以继承并发扬光大，为我们的个人品德、家庭美德、职业道德、社会公德建设服务。

不良之处：
等级观念压抑了人的个性和创造性。儒家思想的核心是“仁”，“仁”的外化就是“礼”，“礼”是儒家思想的一个特色。“礼”就是指人们在相互交往中找到自己的位置，举止言行符合了自己的位置要求，就说明懂礼。中国历来被称为“礼义之邦”，中国人也不乏儒雅君子，但问题就出在过分上。儒家讲君臣、父子、夫妻为“三纲”，讲“贵贱有等，长幼有差”，如果有人违反了礼，就被视为犯上作乱。“礼”太多，就是繁文缛节、形式主义，最大的弊端就是压抑个性，妨碍真理发现和科学发明。由于讲“礼”，领导、长辈说的话，即使错话，也不能越，不能顶，不能改，因而拒绝一针见血的争辩，否则为狂妄、骄傲、“大不敬”。在西方，学生提问不用举手示意，随时插话，打断老师讲课，属于正常；在中国就不行，孔子讲“非礼勿言，非礼勿视，非礼勿听，非礼勿动”。如按这些“礼”来教育，即使天真烂漫、活泼可爱的青少年，也全被教育成循规蹈矩、蹑手蹑脚、千人一面的谦谦君子；再加上孔子讲“君子讷于言，敏于行”、“巧言令色，鲜于仁”，更限制了人们对雄辩和沟通才能的发挥。这和我们改革开放时代提出的开拓性、创造性人才要求背道而驰。

Every culture contains both positive and negative features. Please read the following article discussing one positive and one negative influences of Confucianism on Chinese society.

Positive aspect:
Confucianism proposes a comprehensive ethics system that enriches Chinese traditional moral philosophy. Confucianism stipulates the structure of human relations, and each virtue it extols can be expanded into an essay (e.g., benevolence, righteousness, politeness, wisdom, trustworthiness, modesty, respect, frugality, thoughtfulness, filial piety, fidelity, having a sense of shame). If we articulate the overarching element that underlies all these virtues, we can elaborate on this element and behave accordingly. For instance, benevolence lies at the core of Confucian ethics; it can take on different meanings under different contexts. Benevolence emphasizes the social nature of human being, reflects the value of altruism, reminds people of the importance of self-discipline, and highlights the necessity of holding fast to your beliefs even if it means scarification. Take fidelity as another example. In addition to its surface meaning of vowing loyalty to the ruler, it can also be translated into carrying out one's duties wholeheartedly and taking full responsibility of one's behavior. This virtue can be applied to other areas, such as one's country and the people. Lastly, other virtues are perfectly applicable to the modern society and should be carried forward in order to improve ourselves, better our families, and serve the public.

Negative aspect:
The notion of interpersonal hierarchy suppresses individuality and creativity. The core virtue of Confucianism is benevolence, which is embodied as acting appropriately and finding one's own place during social interactions (propriety). China historically has been called the nation of propriety, and there are plenty of people with noble characters. However, the problem is that the principle of propriety can be overly strict. Confucianism stipulates how people are supposed to behave in different interpersonal contexts, and underlies the need for people to respect the elderly and authority. A violation of propriety can be conceived as breaking the rules and an attempt to insult the ruler. Too much emphasis on propriety is equal to formalism, which hampers individuality, the pursue of truth, and the development of science. Because people care about propriety, they dare not disagree with the elderly/leaders even if the elderly/leaders are wrong. People refuse to argue with seniors out of the fear of being labeled as disrespectful or arrogant. In the West, students who want to voice their opinions do not need to raise their hands, but this is never the case in China. Confucius wants people to behave in accordance to propriety, which could strangle the liveliness of adolescents, turning them all into a rule-follower. In addition, Confucius also admonishes people to be careful about their speech, haltering the growth of communication skills. These all run contrary to what the modern society calls for.

Control Condition:

中国有山地、高原、丘陵、盆地、平原和沙漠等各类地形，地势西高东低，呈三级阶梯分布，自西而东，逐级下降；平原少，山地多，陆地高差悬殊。山地、高原和丘陵约占陆地面积的 67%，盆地和平原约占陆地面积的 33%。山地和高原多集中于西部地区。海拔 500 公尺以下的地区仅占全国面积的 16%，海拔 1000 公尺以上的高达 65%，全世界 8000

公尺以上的 12 座山峰中国就有 7 座；山脉多呈东西和东北一西南走向，主要有阿尔泰山、天山、昆仑山、喀喇昆仑山、喜马拉雅山、阴山、秦岭、南岭、大兴安岭、长白山、太行山、武夷山和横断山等山脉，与尼泊尔交界的喜马拉雅山主峰珠穆朗玛峰，海拔 8844 公尺，为世界第一高峰，位于吐鲁番盆地的艾丁湖海拔-155 米为最低点。中国的四大高原分别为青藏高原、内蒙古高原、黄土高原和云贵高原，青藏高原为最大的高原；四大盆地分别为柴达木盆地、塔里木盆地、准噶尔盆地和四川盆地，塔里木盆地为面积最大的盆地，柴达木盆地为最高的盆地；三大平原分别为东北平原、华北平原和长江中下游平原，东北平原为最大的平原。荒漠主要分布于西部地区，塔克拉玛干沙漠为中国面积最大的沙漠，也是世界最大的流动沙漠。

由于疆域的宽广和地理的大跨度，中国几乎囊括了所有地形；中国陆地的河流、湖泊众多，但它们主要属于太平洋海洋水系，这决定了水流向东的基本走向；其次为西南部部分区域属于印度洋水系，西部部分地区存在内陆独立水系；西北部几条河流属于北冰洋水系。河流分为外流河与和内流河，南部、东部和北部河流均为外流河，南方河流水流量大，水位季节变化较小，汛期较长，含沙量小，无结冰期；北方除黑龙江等少数河流外，河水的流量小，水位季节变化规汛期较短，含沙量大。内流河主要分布在西北部，塔里木河为中国最大内流河。长江为中国第一大、世界第三大河流，黄河和珠江分别为第二和第三大河流。中国湖泊众多，主要分布于南部和西部，五大淡水湖泊鄱阳湖、洞庭湖、太湖、洪泽湖和巢湖均分布于长江流域；青海湖为面积最大的湖泊，也是最大的咸水湖，纳木错为第二大咸水湖。

Curriculum Vitae

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EDUCATION

07/2018 **Doctor of Philosophy**, Counseling Psychology (APA-accredited)
Indiana University Bloomington (IUB)
GPA: 3.99
Minor: Social Psychology
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08/2017-07/2018 **Psychology Intern**, Counseling and Wellness Center (APA-accredited)
University of Florida

2010-12 **Master of Science**, Counseling and Counselor Education (APA-accredited)
Indiana University Bloomington (IUB)
GPA: 3.98

2004-07 **Bachelor of Arts**, Education (summa cum laude)
National Chengchi University, Taipei, Taiwan
GPA: 3.98
Minor: Psychology

HONORS AND AWARDS

2017 **Student Travel Award** ($300)
American Psychological Association
2017 **Government Scholarship to Study Abroad** ($16,000/year for 2 years max)
Ministry of Education, Taiwan
2017 **Graduate Student Research Grant** ($2,000)
Center for Research on Race and Ethnicity in Society, IUB
2017 **IU Credit Union Continuing Student Scholarship** ($2,150)
2016 **Research Fellowship** ($1,000)
School of Education, IUB
2015 **Featured Member of the Month** (September)
Positive Psychology Section, Society of Counseling Psychology (Division 17, APA)
2015 **Graduate Student Travel Award** ($500)
Center for Research on Race and Ethnicity in Society, IUB
2015, 2017 **Trenthem Travel Award** ($300; 2 times)
School of Education, IUB
2011 **Travel Award** ($500)
Graduate & Professional Student Organization, IUB

2011	**International Student Scholarship** ($1,000) *Office of International Services, IUB*
2011	**Linker Family Scholarship** ($1,000) *School of Education, IUB* (Awarded to students who have shown involvement in serving the economically disadvantaged)
2007	**Outstanding Graduating Award** *National Chengchi University, Taipei, Taiwan* (Recognizes outstanding academic achievements)
2005-07	**Dean's List** (5 semesters) *National Chengchi University, Taipei, Taiwan*
2007	**Alumni Association Scholarship** *National Chengchi University, Taipei, Taiwan*
2007	**Ms. Wen-Ying Huang Scholarship** *Department of Education, National Chengchi University, Taipei, Taiwan*
2007	**Mr. Chih-Hsien Chi Scholarship** *Department of Education, National Chengchi University, Taipei, Taiwan*

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8. **Wang, S.-Y.**, Wong, Y. J., Yeh, K.-H, & Wang, L. (2018). What makes a meaningful life? Examining the effects of interpersonal harmony, dialectical coping, and nonattachment. *Asian Journal of Social Psychology*. Advance online publication. https://doi.org/10.1111/ajsp.12212

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4. Wong, Y. J., Burkley, M., Bell, A. C., **Wang, S.-Y.**, & Klann, E. M. (2017). Manly to the core: Measuring men's implicit masculine self-concept via the Semantic Misattribution Procedure. *Personality and Individual Differences, 104*, 320-325.

3. **Wang, S.-Y.**, Wong, Y. J., & Yeh, K.-H. (2016). Relationship harmony, dialectical coping, and nonattachment: Chinese indigenous well-being and mental health. *The Counseling Psychologist, 44*, 78-108.

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1. Wong, Y. J., **Wang, S.-Y.**, & Klann, E. M. (submitted). The emperor with no clothes: A critique of collectivism and individualism. *Archives of Scientific Psychology*.

MANUSCRIPTS IN PREPARATION

1. **Wang, S.-Y.**, Lester, J. N., O'Reilly, M., & Henz, J. (in preparation). "I'm not that type of person": A discourse analysis of identity construction and therapeutic change in motivational interviewing.

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1. **Wang, S.-Y.** (2016). A situated approach to Chinese well-being: Research and application. *Positive Psychology: Theory and Application, 11*, 27-30.

CONFERENCE PRESENTATIONS (PEER-REVIEWED)

11. Deng, K., McCullough, K. M., **Wang, S.-Y.**, & Wong, Y. J. (2018, August). *Dialectical coping among Asian American and Chinese college students*. Poster to be presented at the American Psychological Association Annual Convention, San Francisco, CA.

10. **Wang, S.-Y.**, Shea, M., Cheng, J., Parker, J., & Wong, Y. J. (2017, August). The character strength of encouragement. In Y. J. Wong (Chair), *The psychology of encouragement: New directions for research and practice*. Symposium conducted at the American Psychological Association Annual Convention, Washington, D.C.

9. Wong, Y. J., Burkley, M., Bell, A. C., **Wang, S.-Y.**, & Klann, E. M. (2017, August). Measuring men's implicit masculine self-concept using the Semantic Misattribution Procedure. In R. F. Levant (Chair), *Recent research in the psychology of men and masculinities using advanced methods*. Symposium conducted at the American Psychological Association Annual Convention, Washington, D.C.

8. **Wang, S.-Y.**, & Wong, Y. J. (2017, August). *Relationship harmony and dialectical coping contribute to meaning in life*. Poster presented at the American Psychological Association

Annual Conference, Washington, D.C.

7. **Wang, S.-Y.**, Wong, Y. J., Yeh, K.-H., & Wang, L. (2017, August). *Coping with dialecticism increases the co-occurrence of positive and negative affect*. Poster presented at the American Psychological Association Annual Conference, Washington, D.C.

6. **Wang, S.-Y.**, Wang, L., & Bordon, J. J. (2016, April). *Emotion regulation in Taiwanese adolescents: Is coping flexibility a missing piece of the puzzle?* Paper presented at the Great Lakes Regional Counseling Psychology Conference, Bloomington, IN.

5. Wang, L., & **Wang, S.-Y.** (2016, April). *Psychological displacement paradigm in diary-writing: An indigenous approach to perspective-taking.* Experiential activity conducted at the Great Lakes Regional Counseling Psychology Conference, Bloomington, IN.

4. **Wang, S.-Y.**, & Wong, Y. J. (2015, August). Confucianism, Taoism, and Buddhism: Competing visions of well-being. In Y. J. Wong (Chair), *Beyond collectivism: The interface of culture and well-being*. Symposium conducted at the American Psychological Association Annual Convention, Toronto, Canada.

3. **Wang, S.-Y.**, Miller, I. S. K., Ho, M.-H. R., & Wong, Y. J. (2015, August). Conformity to masculine norms and mental-health related outcomes: A meta-analysis. In Y. J. Wong (Chair), *Social norms approaches to the psychology of men and masculinities: Three conceptual paradigms*. Symposium conducted at the American Psychological Association Annual Convention, Toronto, Canada.

2. Fisher, A. R., Wong, Y. J., Ho, M.-H. R., & **Wang, S.-Y.** (2015, August). Subjective masculine norms in Singapore: A mixed-method study. In Y. J. Wong (Chair), *Social norms approaches to the psychology of men and masculinities: Three conceptual paradigms*. Symposium conducted at the American Psychological Association Annual Convention, Toronto, Canada.

1. Nguyen, C., Chen, W., **Wang, S.-Y.**, & Wong, Y. J. (2011, August). *Profiles of Asian American men's and women's adherence to Asian values: A latent class cluster analysis.* Poster session presented at the Asian American Psychological Association Annual Convention, Washington, D.C.

INVITED CONFERENCE PRESENTATIONS

1. **Wang, S.-Y.** (2016, April). Relationship harmony, dialectical coping, and nonattachment: Chinese indigenous well-being and mental health. In T. D. Ivory (Chair), *Boundaries, communities, and identities: Race and ethnicity across the disciplines*. Symposium conducted at the Center for Research on Race and Ethnicity in Society Graduate Student Research Symposium, Bloomington, IN.

PROFESSIONAL REVIEWS

2016, 2017 **Co-Reviewer**
Journal of Positive Psychology
Psychology of Men and Masculinity
Journal of Counseling Psychology

02/2016 **Program Reviewer**
2016 Great Lakes Regional Counseling Psychology Conference

TEACHING EXPERIENCE

08/2014-05/2015 **Associate Instructor**
Positive Psychology (EDUC-G355)
Department of Counseling and Educational Psychology, IUB

09/2013-12/2014 **Associate Instructor**
Communication for Youth-Serving Professionals (EDUC-G203)
Department of Counseling and Educational Psychology, IUB

02/2007-07/2007 **Practice Teacher**
The Field of Integrated Activity
The Affiliated High School of National Chengchi University, Taipei, Taiwan

LEADERSHIP EXPERIENCE

08/2017-07/2018 **Co-Chair of the International Education Week**
Gator International Focus Team, University of Florida

2015-17 **Co-Chair of the Commission on Multicultural Understanding**
Office of the Dean of Students, IUB

2014-16 **Student Campus Representative**
Positive Psychology Section, Division 17 (Society of Counseling Psychology), APA

2013-16 **Chair of the International Liaison Committee**
Counseling Psychology Student Organization, IUB

CLINICAL EXPERIENCE

Pre-Doctoral Internship

08/2017-07/2018 **Psychology Intern**
University of Florida Counseling and Wellness Center

Doctoral Practicum Experience

08/2015-05/2017 **Doctoral Level Practicum Counselor**
Counseling and Outreach, Ivy Tech Community College, Bloomington, Indiana

09/2014-05/2017 **Doctoral Level Practicum Counselor**
Diversity Outreach Team, Counseling and Psychological Services, IUB

08/2015-08/2016 **Mandarin Counseling Services Coordinator**
Center for Human Growth, School of Education, IUB

09/2014-05/2015 **Doctoral Level Practicum Counselor**
Office of Alternative Screening and Intervention Services, IUB

09/2013-08/2016 **Doctoral Level Practicum Counselor**
Center for Human Growth, School of Education, IUB

Master's Practicum Experience

05/2011-05/2012 **Master's Level Practicum/Intern Counselor**
Center for Human Growth, School of Education, IUB

09/2011-05/2012 **Master's Level Outreach Intern Counselor**
Student Assistance Program, Batchelor Middle School, Bloomington, Indiana

SUPERVISORY EXPERIENCE

01/2018-05/2018 **Doctoral Supervisor**
University of Florida Counseling and Wellness Center

05/2016-07/2016 **Doctoral Supervisor**
Department of Counseling and Educational Psychology, IUB

PROFESSIONAL EXPERIENCE IN MULTICULTURALISM

01/2018-07/2018 **Committee Member**
LGBTQ & Service Committee, University of Florida Counseling and Wellness Center

08/2017-07/2018 **Team Member**
Social Justice Consultation Project, University of Florida Counseling and Wellness Center

08/2015-05/2017 **Graduate Assistant**

Commission on Multicultural Understanding, Office of the Dean of Students, IUB

SELECTED OUTREACH EXPERIENCE

Detailed information of each outreach activity available upon request.

Panelist

02/2018	Healthy Relationships
11/2017	Navigating Cultural Differences in the Classroom
09/2107	Post-Irma Process Group with International Students
04/2017	Smashing Stigmas: A Panel Discussion on Mental Health in Asian Communities
10/2016	"Out of the Darkness" Suicide Awareness Event Follow-Up Discussion
02/2016	The Untold Truths in Black Family
04/2015	Combating Stigma of Mental Health and Help Seeking

Speaker

02/2018	Home Sweet Home: Readjustment
11/2017	Improving Wellness through Social Justice
11/2017	Mental Health and Graduate Students
11/2017, 04/2016	Dating and Making Friends in the US
04/2016	Mindfulness-Based Stress Reduction (MBSR)
11/2017, 02/2016	Procrastination Cure
08/2015	Respect for Cultural Diversity
02/2015	Positive Psychology Interventions
02/2015	Time Management
10/2014	Meditation from a Psychological Perspective

WORK EXPERIENCE

2012-13 **Research Assistant**
Institute of Ethnology, Academia Sinica, Taipei, Taiwan
Principal Investigator: Kuang-Hui Yeh, Ph.D.

2009-10 **Research Assistant**
Department of Psychiatry, College of Medicine, National Taiwan University, Taipei, Taiwan
Principal Investigator: Susan Shur-Fen Gau, M.D., Ph.D.

2008-09 **Research Assistant**
Graduate Institute of Nursing, Taipei Medical University, Taipei, Taiwan
Principal Investigator: Ping-Ling Chen, Ph.D.